

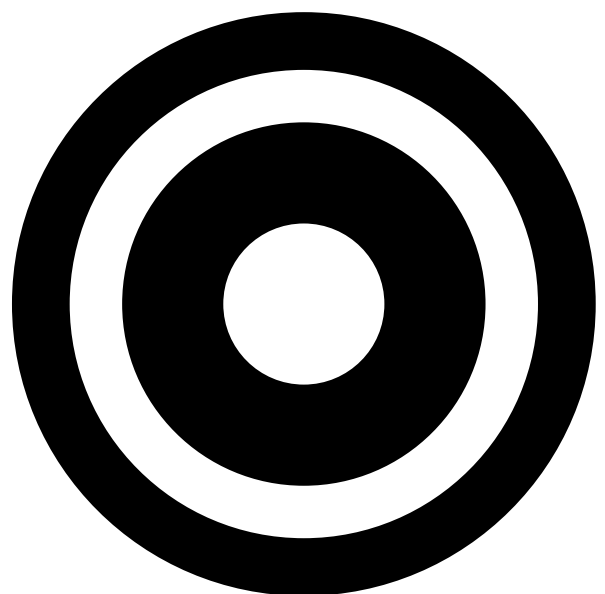


Designing the Green Transition
UK fashion interventions to
implement a circular fashion
ecosystem: upstream
*Future Observatory Cultural
Policy Fellowship Report*

AUTHORS Institute of Positive Fashion,
British Fashion Council



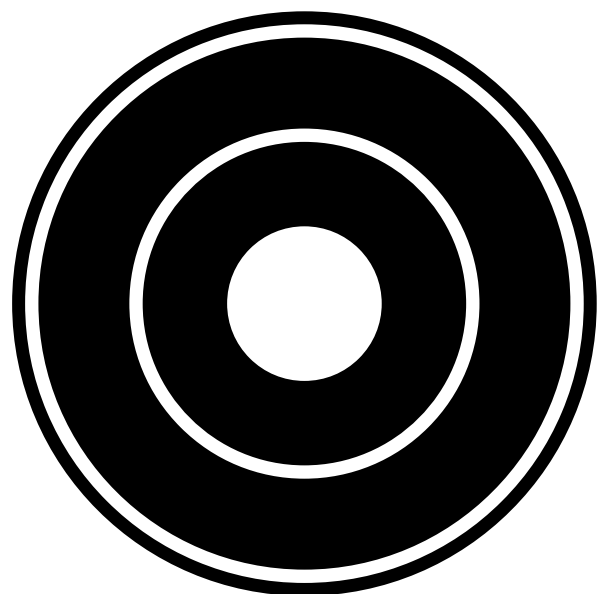
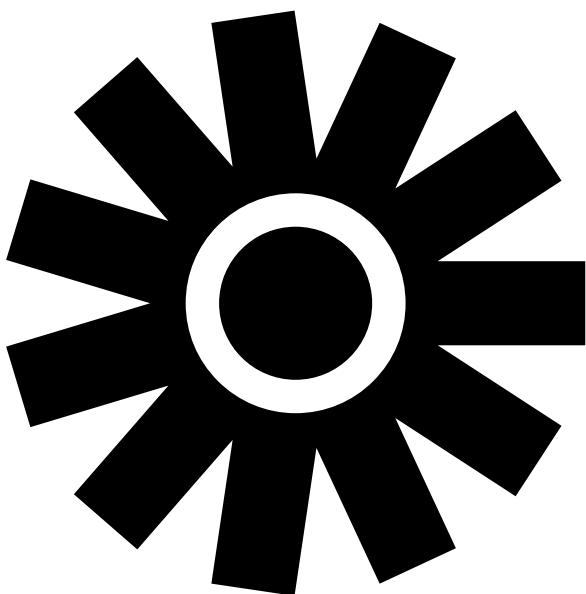
FUTURE
OBSERVATORY



This report is authored by the British Fashion Council's Institute of Positive Fashion. This report is commissioned, funded and coordinated by Future Observatory at the Design Museum, in partnership with the Arts and Humanities Research Council (AHRC); and supported by the Department for Culture, Media and Sport (DCMS) via UK Research and Innovation (UKRI). This research was developed and produced according to UKRI's initial hypotheses and output requests. Any primary research, subsequent findings or recommendations do not represent DCMS views or policy and are produced according to academic ethics, quality assurance and independence.



1 About the British Fashion Council & Institute of Positive Fashion



The British Fashion Council (BFC) has a critical role in accelerating a transition to a circular fashion economy in the UK, acting as the convenor for change across actors in the global ecosystem. It is uniquely placed to bring industry together, to shape policy and industry regulations, particularly through dialogue with government and industry, and all stakeholders in fashion's ecosystem.

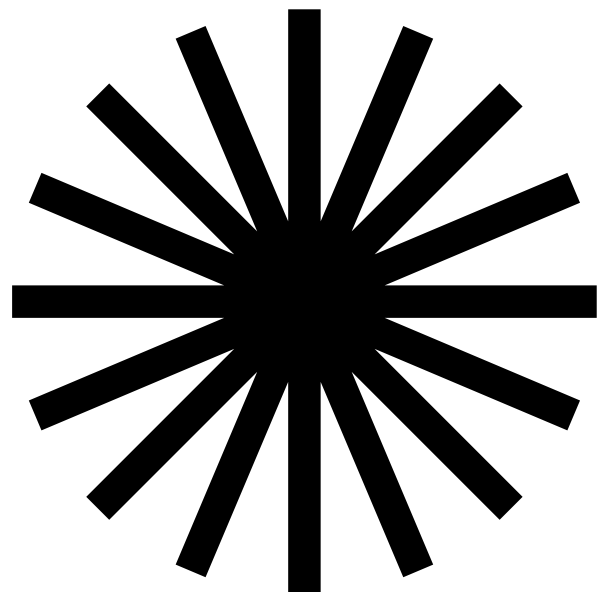
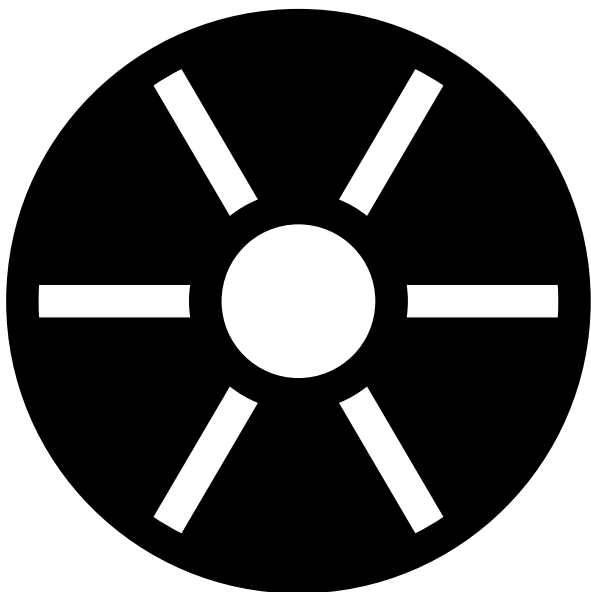
The Institute of Positive Fashion (IPF) programme sits at the heart of the BFC. Focused on creating solutions in response to the climate change agenda, the IPF is helping the British fashion industry meet its goal to be more resilient and circular through global collaboration as well as local action.

In January 2023, BFC, Innovate UK (IUK) and UK Fashion & Textile Association (UKFT) chaired a day of workshops with over 80 representatives from the fashion industry, including academia, brands, government representatives, industry bodies, innovators, manufacturers, NGOs, retailers and SME designer businesses.

The Circular Fashion Innovation Network (CFIN) subsequently launched in September 2023, a partnership between the BFC, UKFT and UK Research and Innovation (UKRI). An industry-led programme of work, the objective is to accelerate the UK towards a Circular Fashion Ecosystem. Through developing a sustainable ecosystem-transformation programme, the CFIN will accelerate UK fashion to become a world-leading circular economy.

The approach and the work of the IPF to help accelerate the industry towards a circular fashion ecosystem, is about innovation through industry transformation. The work is fundamentally collaborative and seeks to leverage the BFC's convening power to source rich insights using an ecosystem approach through cross-stakeholder perspectives. All recommendations put forward could be scaled to serve all market sectors of industry, recognising there are differences in challenges and opportunities across business type.

2 Acknowledgements



This report is commissioned, funded and coordinated by Future Observatory at the Design Museum, in partnership with the Arts and Humanities Research Council (AHRC) part of UK Research and Innovation (UKRI); and supported by the Department of Culture Media and Support (DCMS) Science and Analysis R&D Programme.

Researchers of this report were Shailja Dubé, IPF Programme Lead, BFC, Dr Naomi Bailey-Cooper, post-doctoral research fellow, supported by Dr Emmeline Cooper, post-doctoral research fellow.

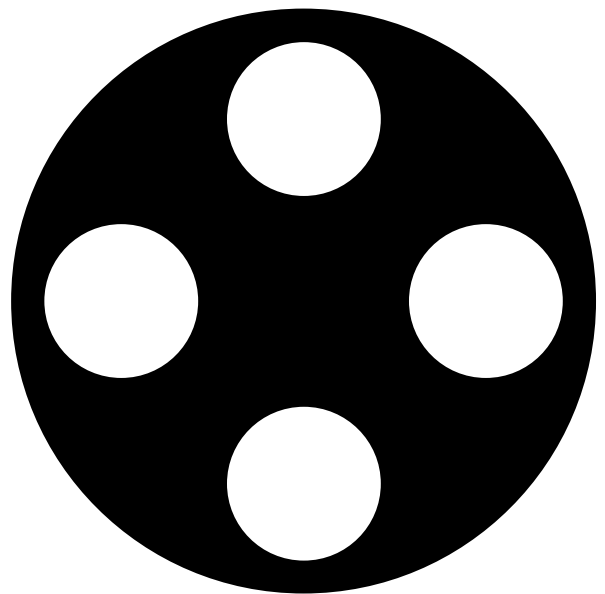
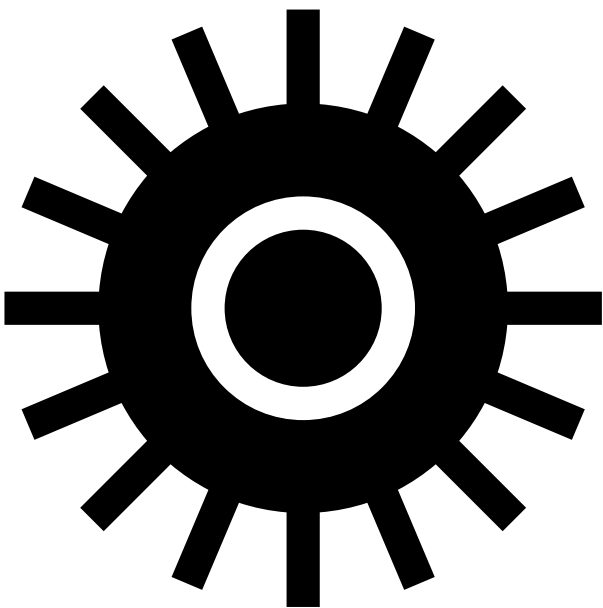
The report has been authored by Shailja Dubé and Dr Naomi Bailey-Cooper, with contributions from Elizabeth Diaferia, Government Relations Consultant, BFC.

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- Liz Thornhill, Programme Manager, Future Observatory, The Design Museum
- All attendees of the BFC × IUK × UKFT Circular Fashion Innovation Network Day, January 2023
- All attendees of the Institute of Positive Fashion Forum, April 2023
- The Future Observatory Team, The Design Museum, London

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Abstract



Future Observatory's largest grant scheme is the Green Transition Ecosystems, which will fund multi-partner design research focused on regional, systemic or sectoral change. With that in mind, Future Observatory, which is part of the Design Museum, has established a model of creating Ecosystem Fellows to map potential design ecosystems to better understand how they work and how they can be amplified.

The IPF programme sits at the heart of the BFC and is playing a critical role in accelerating the transition to a circular fashion economy in the UK. This research builds on publications from the IPF's flagship strategic programme, the Circular Fashion Ecosystem (CFE) project. Published in 2021, the project sets out a target circular fashion ecosystem, with a framework of actions mapped to leading and enabling stakeholders to reach this target state in the UK.¹

The fashion industry is a significant contributor to the UK economy, with a turnover of £35 billion in 2019, providing over 890,000 jobs.² However, globally, the fashion and textiles industry continues to have a significant environmental and social impact, with issues such as waste, ecological degradation, pollution, systematic exploitation, and poor working conditions. The upstream supply chain has a high impact on the rest of the fashion ecosystem, with an estimated 80% of a product's environmental impact at design stage.³

This research report has a focus on broad themes across fashion supply chain steps of design, sourcing and manufacture only, to answer the primary research question:

How sector interventions can enable implementation of a circular fashion ecosystem, specifically in the upstream supply chain?

Across the core themes of the upstream supply chain, this report presents findings based on research conducted from January to April 2023, using primary data the IPF gathered between 2021 and 2023 from across the fashion industry. This includes SME fashion designers in the BFC network, academia, brands, retailers, consultants, collectors & sorters & reprocessors, digital innovators, logistics providers, institutions and the third sector.

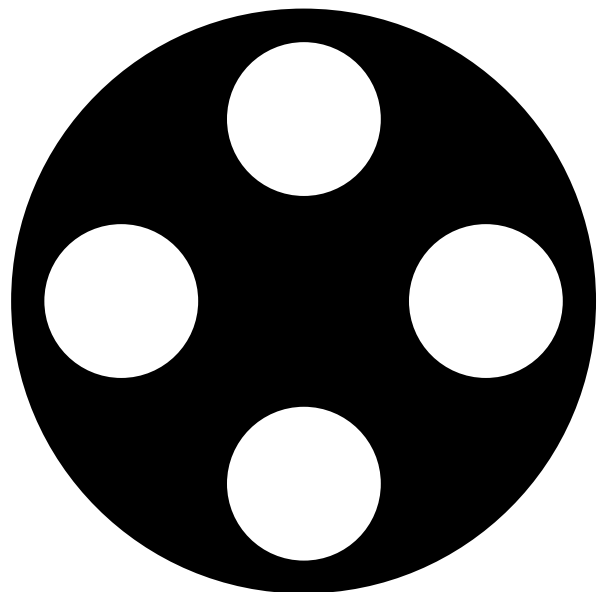
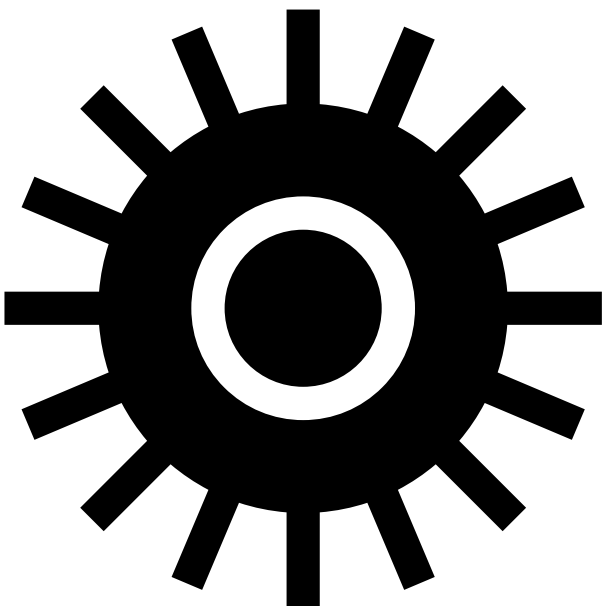
Recommendations are presented into four major needs of industry stakeholders and their associated government recommendations, to accelerate a circular ecosystem for fashion:

- **DESIGN - 1** – Support for sustainable practices
- **SOURCING - 2** – An ecosystem of recycled, recyclable, and regenerative feedstock
- **MANUFACTURING - 3** – Establish growth of UK manufacture, and
- **4** – Support to grow repair & remanufacture skills and services.

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4 Executive Summary



The BFC has a critical role in accelerating a transition to a circular fashion economy in the UK and beyond, acting as the convenor for change across the whole ecosystem. It is uniquely placed to address policy and industry regulations, particularly through dialogue with government and industry stakeholders. The IPF programme sits at the heart of the BFC. Focused on creating pathways in response to the climate change agenda, the IPF is helping the British fashion industry become more circular.

The fashion industry is a significant contributor to the UK economy, with a turnover of £35 billion in 2019, providing over 890,000 jobs.² However, the fashion and textiles industry is a high emitter of greenhouse gases (GHGs) globally, accounting for around 2–8% of total emissions.⁴ The industry has a significant negative environmental and social impact, with issues such as waste, ecological degradation, pollution, systematic exploitation, and poor working conditions. The upstream supply chain, which includes design, sourcing, manufacturing as well as up to the point of final product has the highest impact, with an estimated 80% of a product's environmental impact locked at the design stage as a result of material selection, construction and style choices.³

This research builds on the IPF's flagship strategic programme, the Circular Fashion Ecosystem (CFE). The strategy of CFE Phase 1 (published in 2021) sets out a target circular fashion ecosystem, which includes three target outcomes, 10 action areas and 30 recommendations to 13 stakeholders across the ecosystem to reach a circular fashion ecosystem in the UK.¹

This report presents findings based on research the IPF conducted from January to April 2023, drawing on the IPF's engagement with industry stakeholders through CFE Phase 1 and CFE Phase 2 Progress Report (2022),⁷ industry stakeholder surveys conducted in 2023, and extensive literature and policy review. Insights were gained from the following stakeholder groups; academia, brands, retailers, consultants, collectors & sorters & reprocessors, digital innovators, logistics providers, institutions and the third sector.

To accelerate the green transition to a circular fashion economy, this research has identified four major needs of key stakeholders across the UK fashion and textile.

DESIGN: KEY INDUSTRY CHALLENGES:

1 – The UK fashion and textiles industry needs support for sustainable design practices throughout the whole business operations

RECOMMENDED INTERVENTIONS:

- Business incentives including tax breaks and VAT reduction
- Digital product passport regulation
- Ecodesign regulation for apparel
- Extended Producer Responsibility (EPR) tax



→ Materials impact transparency legislation

SOURCING: KEY INDUSTRY CHALLENGES:

2 – The UK fashion and textiles industry needs an ecosystem of quality recycled, recyclable and regenerative materials for enhanced materials sourcing and selection:

RECOMMENDED INTERVENTIONS:

- Funding for technologies to provide quality recycled, recyclable and regenerative feedstock
- Funding textile sorting infrastructure in the UK
- Materials impact transparency legislation
- Digital product passport regulation
- Extended Producer Responsibility (EPR) tax

MANUFACTURING: KEY INDUSTRY CHALLENGES:

3 – The UK fashion and textiles industry needs support for the growth of UK-based fashion and textile manufacturing:

RECOMMENDED INTERVENTIONS:

- Fair conditions for the growth of UK manufacturing
- Extended Producer Responsibility (EPR) tax
- Digital product passport regulation

4 – The UK fashion and textiles industry needs support to grow repair & remanufacture skills and services:

RECOMMENDED INTERVENTIONS:

- Providing Education and Training Programmes

All in-depth supporting analyses can be found in Section 2: Insights and Section 3: Recommendations.

These four industry needs within the upstream supply chain are interlinked in their approach to accelerating implementation of a circular fashion ecosystem in the UK. For example, there is a need for industry regulation for low impact materials, which include materials with recycled, recyclable, and regenerative content. For those fibres and materials to be more readily available on the market, investment is required to accelerate the development and scaling of technologies that provide quality recycled feedstock. The main barrier to recycling is the lack of sorting of used textiles within the UK. Additionally, there is an urgent need for access to more recycled materials that are of a consistent high quality. Durable materials enable designers and brands to design garments for longevity of wear and use, as well as the ability to successfully repair and remanufacture apparel and products.

The four stakeholder needs are mapped across the upstream supply chain, in Figure 1:

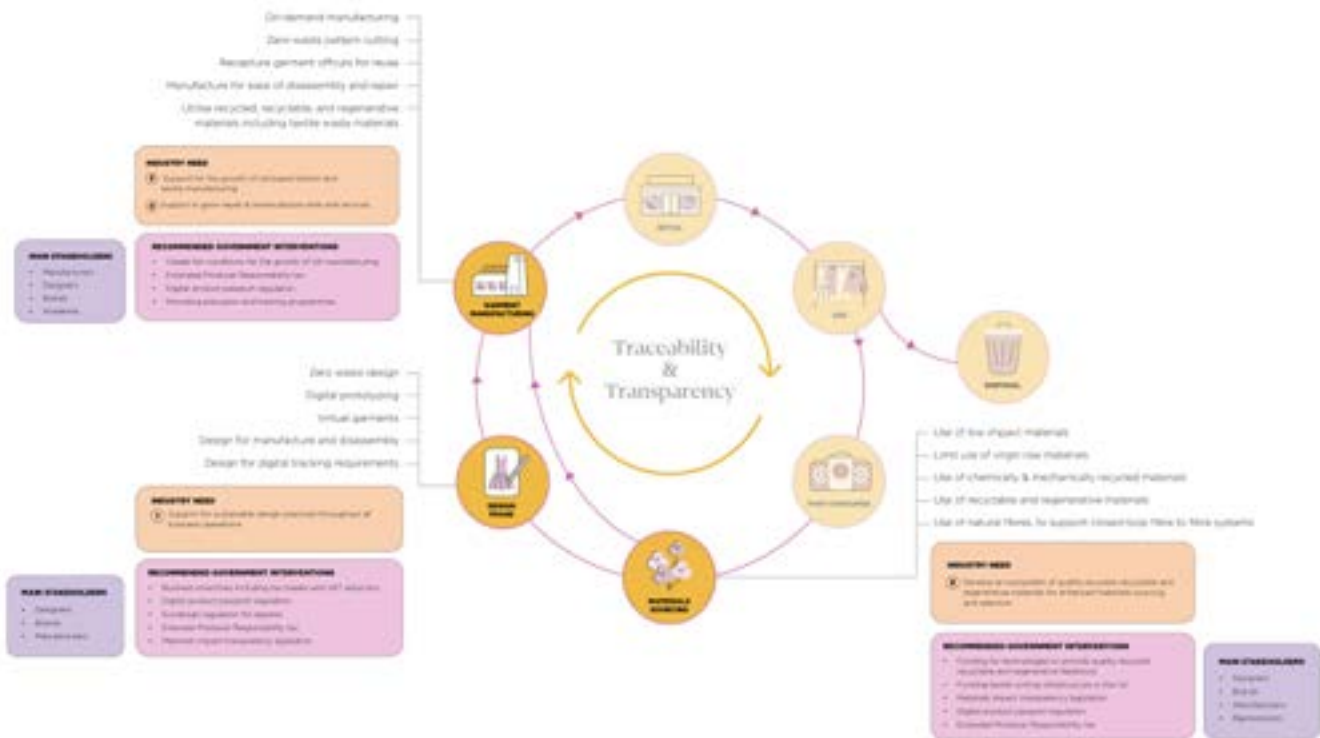
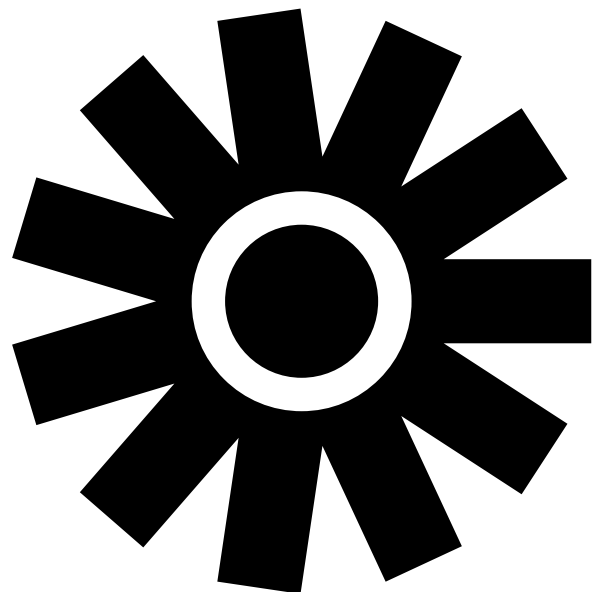
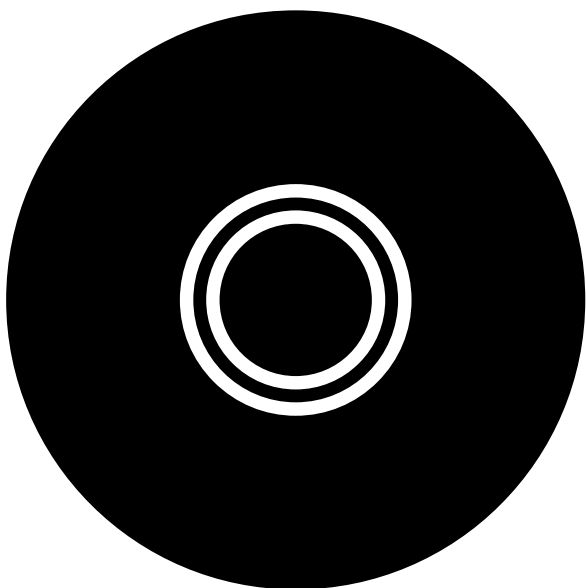


FIGURE 1: INTERVENTIONS WITHIN THE UPSTREAM SUPPLY CHAIN THAT COULD ACCELERATE A CIRCULAR FASHION ECOSYSTEM, INSTITUTE OF POSITIVE FASHION, 2023

Tax incentives have the potential to push the industry to establish and maintain sustainable practices across industry-wide business operations. Funding the ecosystem to enable widescale availability of quality recycled, recyclable, and regenerative feedstock will further enable this to be a sustainable model of positive change. Finally, creating fair working conditions to grow UK manufacturing, and develop industry-proof education combined with training across technical skills to allow mainstream repair and remanufacture will be part of this roadmap for change.

If acted upon globally and across other sectors, the circular economy can deliver the reductions in greenhouse gases needed to help reach the goals of the government’s Net Zero by 2050 agenda.⁶ For government, this chance to transform the fashion economy to be more regenerative also presents an opportunity for new business models, innovation, and green growth, as well as a significant contribution to meeting the levelling up agenda. In doing so, they present positive changes across the ecological and societal dimensions of the industry.

5 Introduction



The UK's fashion industry is uniquely positioned in the world. Within which are global high street brands, world-class universities and scientific and fashion institutions, established and up-and-coming design talent, and industry-leading innovation and e-commerce businesses. London is also one of the top four of global fashion weeks. The soft power and export market add to the global outreach of our industry. It is also a significant contributor to the UK economy,² providing more jobs than telecommunications, car manufacturing and fishing combined.

BACKGROUND AND AIMS

As the Fashion Pillar of the Future Observatory's Ecosystem Fellows programme, this research builds on data and insights gathered from the IPF's Circular Fashion Ecosystem Project. Of the 13 stakeholder groups cited in the CFE report, brands, designers, manufacturers, government and retailers were identified as key lead and enabling actors to reach a circular fashion ecosystem Target State (as shown in figures 2 and 3 respectively).

This report on Designing the Green Transition builds upon those recommendations to government during CFE Phase 1 (2021), and insights from the CFE Phase 2: Progress Report (2022), which shows what industry actors are progressing when trying to reach a circular fashion ecosystem. Efforts are depicted of ease to integrate circular practices across the upstream supply chain of design, sourcing, and manufacturing, which includes mitigating waste and reducing carbon emissions to meet net zero targets.

The CFE Progress Report also established that government assistance is needed to accelerate or scale many initiatives in order to reach a circular fashion ecosystem in the UK, as industry participants noted that the three main challenges to reach a circular fashion ecosystem were:

- 1 Policy & Regulation
- 2 Mainstreaming circular design
- 3 A suitable post-use ecosystem

STAKEHOLDER ACTIONS AND CONNECTIONS

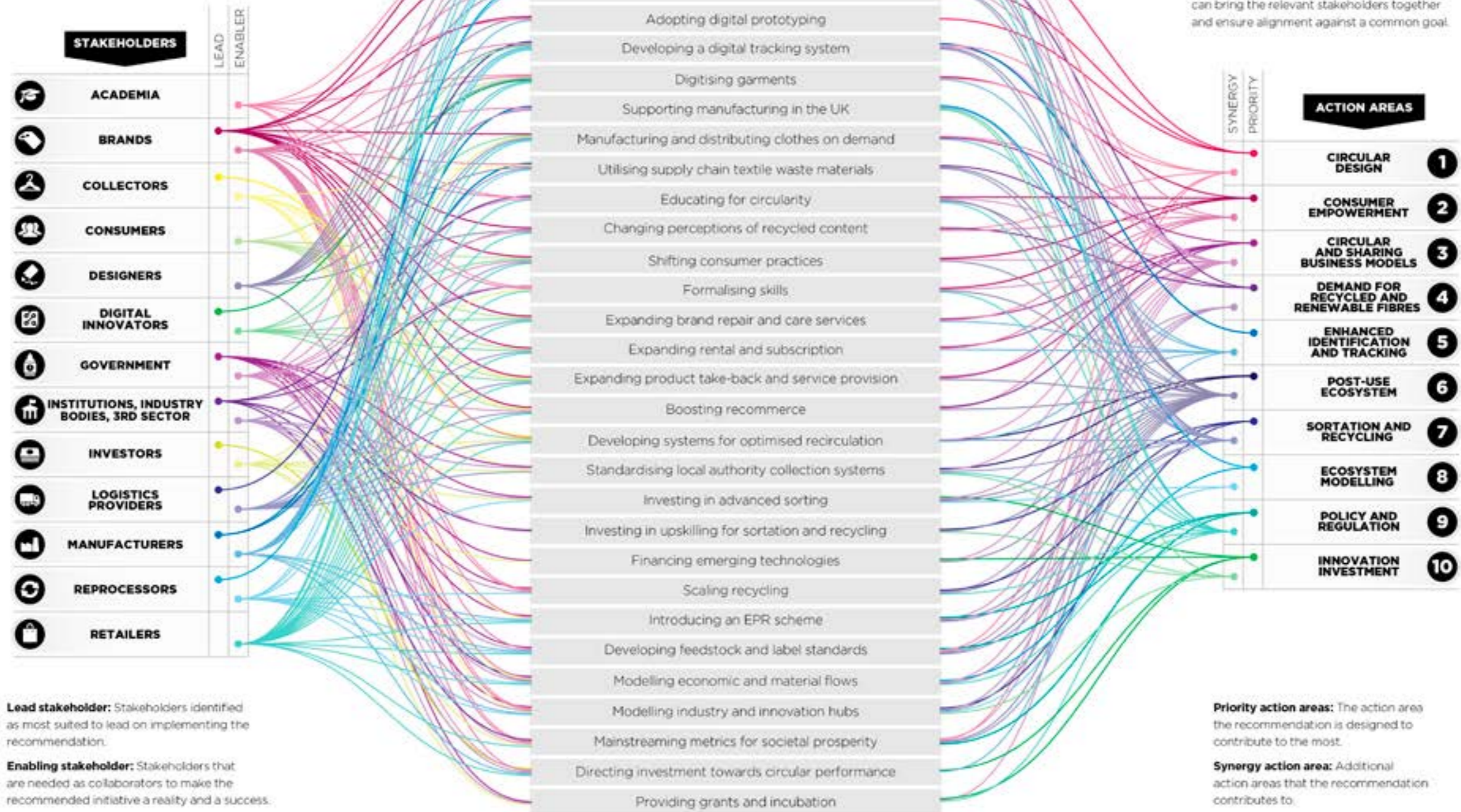


FIGURE 2: STAKEHOLDER ACTIONS AND CONNECTIONS DIAGRAM, PER CFE PHASE 1: ROADMAP FOR CHANGE, INSTITUTE OF POSITIVE FASHION, 2021
 THIS IS AN INTERACTIVE DIAGRAM AND CAN BE FOUND HERE: [INSTITUTE OF POSITIVE FASHION - CIRCULAR FASHION ECOSYSTEM](https://www.instituteofpositivefashion.com/circular-fashion-ecosystem)

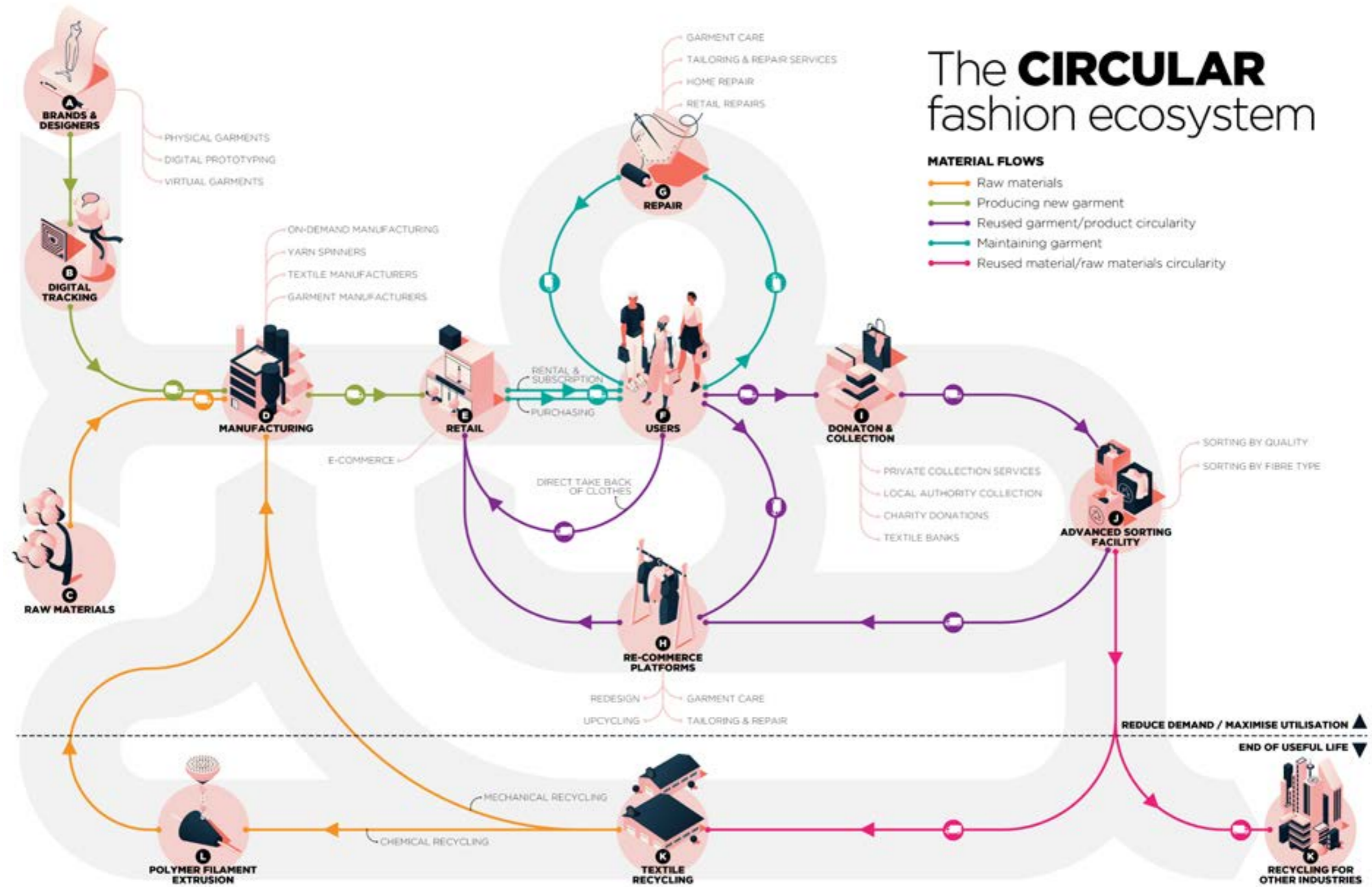


FIGURE 3: THE CIRCULAR FASHION ECOSYSTEM, TARGET STATE, PER CFE PHASE 1: ROADMAP FOR CHANGE, INSTITUTE OF POSITIVE FASHION, 2021

Selected circular fashion activities and key industry actors across the three processes of design, sourcing and manufacturing are:



FIGURE 4: OVERVIEW OF UPSTREAM ACTIVITIES IN FASHION VALUE CHAIN AND ASSOCIATED INDUSTRY ACTORS, INSTITUTE OF POSITIVE FASHION, 2023

The aims of this research is therefore to:

- 1 Identify key needs of the fashion industry where sector assistance could accelerate a circular fashion ecosystem.
- 2 Identify associated sector interventions to address those stakeholder needs, specifically across the upstream supply chain

Based upon this report’s aims and insights, the relevant Government audiences across upstream supply chain themes are:

- **DESIGN:** DCMS, DEFRA, Department for Science, Innovation & Technology
- **SOURCING:** DCMS, DEFRA, Department for Business & Trade, Department for Science, Innovation & Technology
- **MANUFACTURING:** DCMS, DEFRA, Department for Business & Trade, Department for Science, Innovation & Technology, Department for Energy Security and Net Zero

As the World is adapting and recovering from the impact of the Covid-19 pandemic on livelihoods and economies, industry transformation is needed

to accelerate positive action. This action is to prevent further ecological breakdown, to enable society to flourish and create equitable supply chains, and to realise sustained business growth not reliant on resource extraction or depletion.

In November 2021, the UK government unveiled its Ten Point Plan to kickstart the green industrial revolution looking to invest in projects to reduce the nation's contribution to climate change, with £12bn of government investment.⁸ The plan focuses on increasing ambition in 10 key areas; however at the time of writing, the ambition doesn't include the fashion industry. It is pertinent to look at how fashion, a significant contributor to the UK economy yet one contributing toward global GHG emissions, will adapt and deliver beyond the Government's climate change pledge, and the Ten Point Plan. The UK fashion industry is world-leading in terms of creativity and now it must also lead when it comes to responsible business, playing a significant role in helping achieve the UK's climate pledge.

The UK set the world's most ambitious climate change target into law to reduce emissions by 78% by 2035 compared with 1990 levels,⁹ as announced in April 2021 for its Nationally Determined Contributions (NDCs). The NDCs were then revisited and strengthened in response to The Glasgow Climate Pact as agreed by almost 200 countries at COP26 in November 2021. This pact recognised the need for accelerated action to limit global warming to 1.5°C above pre-industrial temperatures.

Under the current trajectory, the fashion industry will miss the 1.5°C pathway by 50%.¹⁰ To meet climate targets, we need to reduce virgin resource consumption and move to circularity. An estimate from the 2021 Circularity Gap Report⁶ claims that a circular economy could reduce global greenhouse gas (GHG) emissions by 39%. Circular economy practices mitigate the need for producing new materials, by keeping value of resources in the system. Therefore, the carbon and other GHG emissions of extracting virgin raw materials and producing new textiles are reduced. However, it is not only emissions that need addressing; the extreme amount of textile waste in the industry also contributes to pollution and biodiversity loss. As expressed by the Waste and Resources Action Programme (WRAP);

“DEFRA would like to see a reduction in waste, in particular residual waste which has to be disposed to landfill or incineration, and especially biodegradable waste going to landfill. Prevention is preferred using avoidance and reuse. For textiles, this means extending the lifespan of products, by designing them to last longer and keeping them in use for longer.”¹¹

A view of broader market challenges is important when it comes to action. In 2021 and 2022, the BFC hosted three group consultations with 22 brands, manufacturers, retailers and industry bodies to establish industry-alignment across market sectors on Fashion's Path to Net Zero, where



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a non-exhaustive view of the industry's many challenges was agreed.¹²

Related top challenges to achieving circular systems are:

- Significant waste generated throughout the supply chain
- Unclear routes and motivations to support low-impact alternative materials
- Over production and post-use waste going to landfill
- An increase in disposable fashion consumerism
- Establishing scalable solutions to fit all sized businesses, as solutions must work for smaller and larger businesses

RESEARCH APPROACH

The research approach involved identification of interests and priorities of a range of stakeholders, including several Government departments. In parallel, Future Observatory held a 'Developing Cultural Policy for the Green Transition' workshop at the Design Museum with representation from Government stakeholders and The Arts & Humanities Research Council (AHRC) to gauge initial feedback on research themes and approach.

The IPF takes an ecosystem approach to research and insight gathering, to build a robust evidence base including necessary empirical evidence. This is to encompass the different stakeholders the BFC engages with, and to best reflect their viewpoints from across the fashion industry. This is a fundamentally collaborative approach to research, with targeted partners and industry coordination at its core.

The research was conducted in the UK over the course of four months (January–April 2023). As an initial step, insights from the existing literature explored challenges in the upstream supply chain (section 2.1 of this report) using insights and data from existing IPF-researched reports and wider secondary literature. This formed the basis of a preliminary assessment of the challenges, and of interventions that could potentially help to mitigate these. Once these broad themes were established, industry engagement and primary research exercises were used to provide additional evidence related to specific high priority challenges (section 2.2 of this report). The presented recommendations have been developed in response to primary and secondary data sources gathered by the IPF. Each of these sources are outlined in more detail below and further in Table 1.

1 - Primary evidence the IPF has gathered through extensive industry engagement for multiple stakeholder perspectives, from 2021 to 2023 included:

- As part of BFC-led activities, a large-scale collaborative workshop was organised with IUK, and UKFT in January 2023. This involved 80 participants from across the fashion industry. The workshop assessed barriers and solutions to the industry's key challenges to inform a strategic roadmap for a circular fashion agenda at the industrial level.

- SME fashion designers in the BFC network were interviewed. As part of this study, industry challenges in the upstream supply chain were explored by way of potential government assistance, through policy, legislation, or funding support.
- From existing unpublished data held by the BFC related to its network
- Surveys of the participants of the IPF Forum 2023⁵⁸ examined attitudes and experiences of industry leaders on moving the UK to a circular fashion ecosystem

2 - Review of relevant policy and industry reports, including:

- Primary data owned by the IPF: CFE Phase 1 Report¹ and CFE Phase 2 Progress Report⁷ and the data within these, provided a foundation, along with wider policy and industry reports and industry initiatives.
- UK government reports relevant to the report's themes

3 - Global industry and government case studies including:

- Meetings were held, including with representatives from Netherlands-based organisations, to understand how other markets could serve as exemplars for change and used as insight and input for suggested interventions.
- Examples of global circular textiles policy and initiatives were gathered through meetings and interviews and attending industry events.
- The circular textile initiatives presented in this report provide innovations with proven scalability and replicability, serving as inspiration for the UK

4 - UK and EU legislation impacting the fashion industry

- Although the UK does not have textiles EPR or digital passport legislation, many businesses will have to embrace these regulations if they sell within the EU.
- Businesses under a certain turnover will have a longer period within which to comply, under EU regulation.

All forms of secondary and primary evidence and industry engagement were collated, analysed and synthesised into Section 2's Insights in this report. This then formed the basis of the four identified industry needs and associated suggested interventions in Section 3's Recommendations.

#	IPF-owned data	Year insight gathered	Industry stakeholders engaged	Number of questions	Number of respondents (quantitative)	Number of participants (qualitative)
1	CFE Phase 1 ¹	2021	Cross-industry*	0	0	33
2	BFC survey to designer members	2021	Designer brands	127	39	39
3	Fashion's Path to Net Zero ¹²	2021/2022	Brands, Manufacturers, Retailers			22
4	Industry-wide survey, CFE Phase 2 Progress Report ⁷	2022	Cross-industry**	17	117	
5	BFC x IUK x UKFT day, Survey, January 2023	2023	Cross-industry***	3	36	0
6	Industry-wide survey, IPF Forum, April 2023 ⁵⁸	2023	Cross-industry***	17	27	24 of the 27
7	Designer interviews for this report	2023	Designer brands	7	0	3
8	Hack 1, IPF Forum, April 2023 ⁵⁸ (please see Appendix 2)	2023	Cross industry***	2	0	Approx 70

TABLE 1: SUMMARY OF EVIDENCE SOURCES USED TO INFORM THIS REPORT, INSTITUTE OF POSITIVE FASHION, 2023

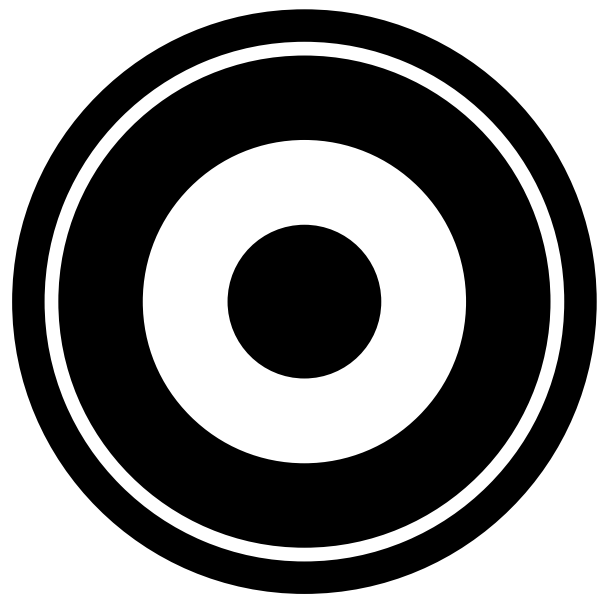
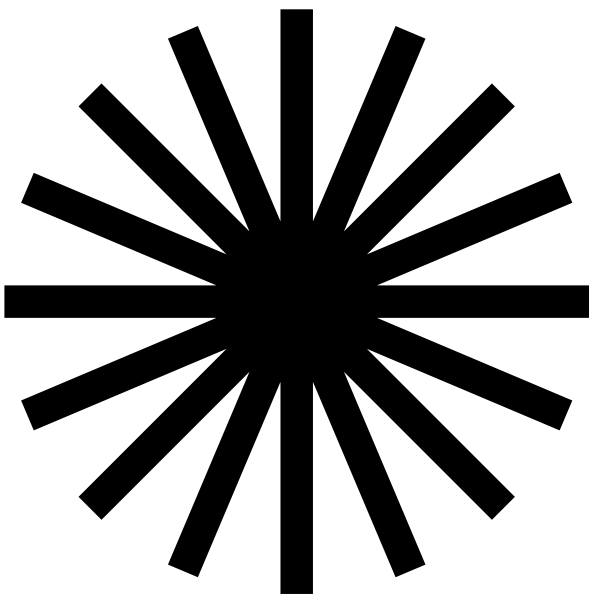
*Cross-industry comprises the following stakeholders: Academia, Brands, Collectors, Designers, Digital Innovators, Government, Institutions/Industry bodies/ 3rd Sector, Logistics providers, Manufacturers, Reprocessors, and Retailers

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*** Cross-industry comprises the following stakeholders: Academia, Brands, Consultants, Designers, Digital Innovators, Institutions/Industry bodies/ 3rd Sector, Manufacturers, and Retailers

While many stakeholders across the upstream supply chain are advancing their own initiatives to reach a circular fashion ecosystem, what has been determined through IPF's insights is enhanced regulation and government assistance is needed in order to accelerate at the required pace to reach UK net zero targets. Technological advancements such as mechanical and chemical recycling of fibres and on-demand manufacture require scaling so that a larger number of industry stakeholders can engage and benefit holistically into a circular ecosystem. There are also opportunities to provide increased training, legislation on transparency and provide tax incentives for circular practices to increase the number of stakeholders engaged in positive activities.

6 Insights



There is a need to establish the right business conditions, to enable circular business practices and circular models to thrive and move businesses away from reliance on resource extraction. This can be through prioritising innovation and looking at incentives for circularity. Coupled with inevitable change occurring globally that will impact UK businesses, including a wave of new textiles and clothing legislation from the European Union (EU)¹³, industry stakeholders have expressed the need for these changes to be communicated and supported through government interventions. There is also a need to identify fiscal incentives and opportunities for funding and long-term policies to enable the green transition. These activities could be comprised of R&D, private investment, innovative materials, business models and innovations to thrive in the marketplace.

Included in this chapter are selected examples related to global industry and government case studies which demonstrate how global nations are focusing on circular economy approaches to promote sustainable practices in the textile and fashion industries. They include recycling and reuse of textile waste, promoting second-hand clothing and rental services, and enhanced dialogue between government and industry to strengthen global supply chains for holistic solutions.

2.1 EXISTING LITERATURE

This research first draws on stakeholder needs in the upstream supply chain found in existing literature, which have been grouped into the areas of design, sourcing and manufacturing. By analysing existing publications, including government reports and policy papers, industry reports, including IPF's own authored reports, and academic peer reviewed papers, the pressing challenges and opportunities of industry stakeholders previously mentioned have been captured.

OVERVIEW OF DESIGN NEEDS

Designing for circularity is a key activity within circular fashion. Circular design activities within the upstream supply chain include the use of zero-waste pattern cutting techniques, adopting digital prototyping to minimise material waste in the toiling phase, digitising garments for virtual fashion experiences, minimising the use of virgin materials and including lower impact fibre content such as recycled, recyclable, and regenerative materials. Circular design also includes considering the activities at the end of useful life of a garment (post-use). Designing for textile reprocessing or reuse is also key, where material blends – for example polyester and cotton – makes recycling more difficult as the technology required to separate textile waste by fibre is not at sufficient scale. Mono material designs are one potential way around this. Other issues are the difficulty of removing trims and hard components such as zips, buttons, and snap fasteners.

IPF research found ‘designing for the post-use ecosystem’ was a particularly challenging area, particularly due to the lack of investment in infrastructure. Further funding is required to scale post-use infrastructure operations, so that designers have the ability and are informed to design for this part of the ecosystem.

Funding Post-use Infrastructure. Just 1% of the world’s textiles are recycled into new clothing.⁵ As part of research by the IPF and Circle Economy in 2022 into ‘Developing Circular Fashion Ecosystems’,¹⁴ one of the main challenges identified by stakeholders in London was linking the design phase with the post-use ecosystem phase. In the same year, the IPF undertook research⁷ to identify the opportunities and challenges stakeholders face in their bid to transition to a more circular model. It was found the approach of designing for circular and sharing business models (e.g. rental and recommerce) was preferred over designing for recycling. One of the reasons for this was that stakeholders experienced technical challenges to embed design for recycling at scale.⁷ Designing for longevity, including offering repair and redesign services to extend product life was a priority for most stakeholders 2022.⁷

GLOBAL INDUSTRY AND GOVERNMENT CASE STUDY: SWEDEN

Stockholm has set a goal to become fossil fuel-free by 2040 and aims to recycle 50% of its waste by 2025, setting a goal of zero waste by 2030.¹⁵

Focus: The city has established a platform known as ‘Circular Stockholm’ to support circular businesses and promote circular economy initiatives.¹⁵ The Swedish Government has also launched a programme called ‘Smart Textiles’ that provides grants for companies that develop sustainable textile products, including products that are easy to repair and reuse.¹⁶ The ‘Textiles 2030’ programme, also launched by the Swedish Government, encourages companies to use sustainable materials and reduce their environmental impact.

Activities/Outcomes: The Textiles 2030 programme has been successful in encouraging companies to adopt sustainable materials, with over 60 companies signing up for the programme. Sweden has also implemented a clothing tax, which was introduced in 2018.¹⁷ The tax is aimed at reducing the environmental impact of the fashion industry by encouraging citizens to buy less and choose more sustainable clothing options. The clothing tax is levied on all new garments sold in Sweden and is based on the price of the garment. The tax rate is 10 Swedish kronor per kilogram of clothing, which is roughly equivalent to 79 pence. The tax applies to both domestic and imported clothing. The revenue generated from the clothing tax is used to fund research and development of sustainable fashion and textile production, as well as to promote sustainable fashion practices among consumers and businesses.

GLOBAL INDUSTRY AND GOVERNMENT CASE STUDY: DENMARK

The city of Copenhagen has a circular economy strategy called ‘Copenhagen 2025’,¹⁸ which includes a goal of achieving zero waste and becoming carbon-neutral by 2025. The city has already reduced its carbon emissions by 50% since 1995 and has achieved a recycling rate of 47% for its waste.

Focus: The strategy includes initiatives such as textile sorting and recycling facilities, a network of second-hand clothing stores, and clothing rental services. In 2019, Copenhagen launched the Sustainable Fashion Charter, a voluntary agreement between the city and the fashion industry. The charter aims to promote sustainable practices in the fashion industry, including reducing waste, increasing the use of sustainable materials and promoting circular business models.

Activities/Outcomes: In 2020, the Global Fashion Agenda in Copenhagen launched the Circular Fashion Partnership,¹⁹ a public-private partnership aimed at accelerating the transition to a circular fashion industry. The partnership brings together stakeholders from across the fashion industry to collaborate on circular solutions, such as closed-loop textile recycling and circular business models.

OVERVIEW OF SOURCING NEEDS

Sourcing materials for fashion collections is the responsibility of brands and designers. Sourcing supply chain textile waste materials from suppliers, manufacturers or from within the design studio itself is one approach to mitigating waste. Another is sourcing materials with a percentage of recycled content, content that is recyclable, or procuring regenerative material inputs produced using farming practices that increase ecosystem health. Production of synthetic and polyester fibres has grown exponentially as their cheaper price points enables high volume, lower quality fast-fashion. Polyester is set to account for 85% of total fibre production by 2030 and is currently the most popular material used in the fashion and textiles industry.²⁰ Synthetic materials, derived from crude oil, require an energy intensive production process on the one hand, and often release damaging microfibre waste into the environment during the use phase on the other.²¹

IPF research found it is not always clear to designers and brands which is the best material option due to lack of transparency of material impact, which in turn is the product of limited legislation.

Legislation for Transparency on Material Impact. There are problems associated with both natural and synthetic fibres used in the production of clothing, making it difficult for brands and designers to know what to source. Alongside the aforementioned challenge with synthetic fibres, materials including cotton, wool, leather, cashmere, silk, and viscose require the use of land, water, animals, feed, trees and chemicals. There is limited transparency on material impact and no clear guidelines for industry on which material choice is best for short or long-life fashion products. In order to enable circular systems, there is need for legislation here so that designers and brands are equipped with information at the sourcing stage about the impact the material will have throughout the post-use ecosystem. In addition, regulation on higher impact materials and tax breaks for lower impact materials in terms of their environmental and social impact may also contribute to best practices.



GLOBAL INDUSTRY AND GOVERNMENT CASE STUDY CASE STUDY: FRANCE

In 2019 the Paris Municipality announced that it aspired to become a sustainable fashion capital by 2024.²²

Focus: In France, as of 2019, fashion sellers and retailers are prohibited from throwing away, discarding, or incinerating unsold clothes. The law requires clothing companies to donate their surplus and unsold clothing, meaning they take substantial responsibility for production quantities as well as logistical measures.²³

Activities/Outcomes: The French EPR scheme for clothing, linen and footwear has nearly trebled collection points since 2007 to nearly 42,000 in 2016 and collection rates have increased by 50%. Furthermore, the scheme has provided 1,400 new full-time jobs, with 49% going to people facing employment difficulties.²¹ The French EPR scheme is part of a broader initiative called the Anti-Waste for a Circular Economy Law, which was passed in February 2020 and came into effect in January 2023.²⁴ This aims to reduce waste in several sectors, including fashion and textiles, and sets targets for the reduction of textile waste. The law also includes provisions for improving product information and labelling to help consumers make more sustainable choices – such as indicating the country in which operations took place and sharing environmental details on waste-generating products. This will drive transparency and traceability throughout the supply chain.

CASE STUDY: TEXTILE EXCHANGE AND THE UNFCCC

In April 2021, Textile Exchange in partnership with the United Nations Framework Convention on Climate Change's (UNFCCC) Fashion Industry Charter for Climate Action launched the voluntary 2025 Recycled Polyester Challenge²⁰ in a bid to reduce the industry's reliance on virgin fossil-based resources entering the system, increase recycled polyester use, and see associated reduction in GHGs.

OVERVIEW OF MANUFACTURING NEEDS

Circular approaches include manufacturing and distributing clothing on-demand to reduce excess production, using recycled and recyclable feedstock to minimise waste, and producing durable garments for longevity. It is worth noting that recycling will not solve for the challenges of large volumes textile waste created (through production methods, including over-production by industry to meet consumption desires), resource extraction and the increased use of fossil fuel-based synthetic fibres. Additionally, circular manufacturing needs to ensure that the recycled feedstock coming through is not from recycled plastic bottles, such as recycled polyethylene terephthalate (rPET), but instead recycled textiles for a closed-loop, fibre-to-fibre system.

Innovative manufacturing methods are on the rise, including digital prototyping, zero-waste production, and special yarn and garment knitting production to eliminate waste. Off cuts and deadstock are also used in production, with a rise in designers and brands employing upcycling methods linked back to design and sourcing stages.

It is further important to note, the UK is not a manufacturing country for volume clothing for its UK companies. Production countries are based at a large distance from the UK, such as India and Bangladesh. There are high GHG emissions as a result of these distances.

IPF research found there is a need to fund technologies that provide quality recycled, recyclable and regenerative feedstock, on-demand manufacture, and enabling flourishing conditions for UK-based manufacture to meet net zero goals.

These should all include enforcing a fair living wage and decent working conditions throughout all supply chains through regulatory mechanisms.

Funding for Technologies that Provide Quality Recycled Feedstock. One of the main opportunities identified in Leeds in the ‘Developing Circular Fashion Ecosystems’¹⁴ report, was boosting circular design across the city’s manufacturing activities to build on the historical relevance and know-how of the city’s textiles industry to improve and scale post-use infrastructure. The shared use of innovative technologies and excess textiles can greatly help reduce the environmental costs of production. Academics have called on government assistance for such ventures to produce greater product value.²² In 2021 the BFC, Council for Sustainable Business, Positive Luxury and others came up with action points for the Government to provide access to the latest international game-changing innovations in manufacturing and recycling technologies.¹² Funding for technologies that provide quality recycled feedstock would boost the ecosystem.



GLOBAL INDUSTRY AND GOVERNMENT CASE STUDY: AMSTERDAM, THE NETHERLANDS

Amsterdam has set a goal to be circular by 2050,²⁵ aiming to reduce CO2 emissions by 55% by 2030.

Focus: To achieve this goal, Amsterdam has developed a comprehensive strategy that focuses on several key areas, including circular economy, sustainable energy and waste reduction. One example is the Amsterdam City Doughnut,²⁶ based on a framework that was developed by British economist Kate Raworth in 2012. The initiative includes extending the life cycle of fashion and textiles by adopting the waste hierarchy of reducing, reusing and recycling. The Amsterdam City Doughnut has been embraced by the city government and is being used to guide policy and decision-making.

Activities/Outcomes: The Denim Deal,²⁷ launched in 2019 and involving an international alliance of more than 40 partners, is aimed at promoting sustainable practices in the denim industry. It focuses on the use of sustainable materials, the reduction of water usage and pollution, promotion of circularity, and transparency and traceability. The goal is that by the end of 2023, three million denim jeans containing 20% post-consumer textiles will have been produced. The earlier Reflow Project,²⁸ founded in 2016, specifically focused on creating a circular system for textile waste. The Reflow Project worked with local waste collectors to collect textile waste and sort it by colour and material type. The sorted textile waste is then shredded into fibres and spun into yarns, used to create new products. As well as proposing citizen initiatives, the project involved roundtable discussions with industry stakeholders to explore EPR schemes.

GLOBAL INDUSTRY AND GOVERNMENT CASE STUDY: NEW YORK CITY, USA

The city of New York has launched a circular economy initiative called ‘NYC Circular City’, which includes a focus on fashion.²⁹

Focus: In New York State, in February 2021 a new regulation was enacted, extending manufacturers’ warranties. The regulation includes reference to the textile sector and stipulates that any business with more than 10% of its waste comprised of textiles is obligated to send residuals for recycling. New York State laws, which require businesses to separate and recycle or repurpose textiles that make up more than 10% of their waste during a given month. The New York State Fashion Act, proposed in 2022, would also hold brands with an annual global revenue of \$100 million accountable for their environmental and social impacts.

Activities/Outcomes: The ‘NYC Circular City’ initiative includes a programme called ‘Wearable Collections’, which collects and recycles used clothing and textiles. The city has also established a network of textile recycling facilities. One result of recycling regulations is also the creation of organisations like FABSCRAP and HELPSY that collect bags of excess fabrics and scrap fabrics directly from fashion studios on a weekly basis.²¹

Funding to Scale On-Demand Manufacture Technologies. Less than 25% of brands surveyed by the IPF in 2022⁷ are providing on-demand manufacturing for their business (where products are only manufactured when needed and in quantities required). Mid-market designers that do not have a bespoke or batch-based business model find on-demand manufacture challenging due to the high cost for small runs with external manufacturers.⁷ While many UK manufacturers can provide on-demand manufacturing, it is for small, made to order or pre-ordered batches and lacks scale.⁷ Funding to accelerate and scale on-demand manufacture technologies would create opportunities in UK garment manufacture.

Fair Conditions to Grow UK Manufacture. While in recent decades, the UK garment manufacturing industry has experienced significant decline, it is currently experiencing renewed growth as retailers have increased sourcing from UK suppliers.²¹ Most designers surveyed by the IPF in 2022 are already supporting garment manufacturing in the UK in some capacity, and manufacturing locally as part of their business model. Designers saw value in being able to visit manufacturers to solve problems, with shorter lead times, and better connection with product and processes.⁷ However, the British Retail Consortium argues there should be more proactive labour law enforcement from government agencies in the UK garment manufacturing sector. This would give retailers the confidence to source more products from UK factories, suggesting that certified products could also help to address poor working conditions.²¹

GLOBAL INDUSTRY AND GOVERNMENT CASE STUDY: CALIFORNIA, USA³⁰

The Garment Worker Protection Act was passed by the state of California in 2020, and came into force from 1 January 2022. It is aimed at protecting garment workers from wage theft and other labour violations.

Focus: The Garment Worker Protection Act requires garment manufacturers to register with the state and provide detailed information about their supply chains and labour practices. The law makes retailers and brands that contract with garment manufacturers jointly liable for wage theft and other labour violations committed by manufacturers.

Activities/Outcomes: The Garment Worker Protection Act has improved working conditions and increased protection for garment workers in California. By requiring manufacturers to disclose information about their supply chains and labour practices, the law aims to increase transparency and accountability in the industry, and to prevent wage theft and other abuses. The joint liability provision also aims to incentivise retailers and brands to take responsibility for the labour practices of their suppliers, and to encourage them to work with manufacturers that comply with labour laws.

INDUSTRY NEEDS – BROADER THEMES

IPF research found other initiatives related to supporting the upstream supply chain cover design, sourcing and manufacture in a broader sense. Here, government assistance could help accelerate sustainable practices, education and training programmes, and digital passport adoption to reach a circular fashion ecosystem.

Taxes and Tax Incentives for Sustainable Practices. It was recommended in the Fixing Fashion report by The Environmental Audit Committee in 2019 that the Government reforms taxation to reward fashion companies that design products with lower environmental impact and penalise those that don't.²¹ As part of this proposal, the Government could make fashion retailers take responsibility for the waste they create and reward companies that take positive action to reduce waste. The report suggested this could be done by charging one penny per garment to producers to raise funds to invest in better clothing collection and sorting in the UK.²¹ This recommendation was in the context of expecting a textiles Extended Producer Responsibility (EPR) policy to come into place in the UK, though was rejected at the time.

Extended Producer Responsibility (EPR). A fair and balanced industry-led EPR system can be a good mechanism to drive the transition to a circular economy in the UK. It requires concerted effort between government and all stakeholders in industry, through an innovative approach from market data collation to incentivisation across all stakeholders in the supply chain. These stakeholders include, but are not limited to, designers, brands, retailers, manufacturers, resale/ rental platform, collectors, sorters and reprocessors. To date EPR schemes focus on end of product life stage:

collections and recycling. However, as the industry scales circular business models, including resale and rental to keep value of garments in the system, an effective UK EPR system should include all points in the value chain.

A UK EPR scheme for fashion and textiles could cover all stages covered in this report, for example:

- **SOURCING:** Incentivise natural and organic fibres over synthetic and non-organic
- **DESIGN:** Design for circularity in terms of durability of textiles and repairability
- **MANUFACTURING:** Establish the footprint of each garment and determine the responsibility to levy, incentivise use of recycled and recyclable content.

This would help to ‘close the loop’ for a circular, fibre-to-fibre system as it directly relates to the start of the value chain – and therefore the inputs – to the post-use ecosystem recycling plants as recyclable and usable feedstock.

The Government could extend its existing Sandbox approach³¹ in other industries, to a meaningful textiles EPR scheme in the UK to test scenarios before implementation.

Providing Education and Training Programmes. Almost all institutions, industry bodies and third sector surveyed by the IPF in 2022 are developing resources and workshops to educate citizens on sustainability, regeneration and circular economy principles.⁷ Within academia, the IPF has found 79% are already providing training in circular design to their students.⁷ However, in 2019, academics at the Centre for Sustainable Fashion (London College of Fashion, UAL) recommended mandating practical skills in the teaching of clothing repair, as well as creating more opportunities for apprenticeships and training in technical and craft skills for textile and garment production.²¹ The skills gap in the UK’s fashion and textiles industry is a pressing problem. One initiative includes the UKFT’s Skills Boot Camp to increase a skilled workforce in the sector.³² Return to work programmes (Returnships) for the over 50s was announced by the Chancellor in the Spring Budget 2023, which could be another initiative to bolster practical skills.

Digital Passport Regulation & Grants. Integration of digital tracking – such as RFID tags or QR codes – is being adopted by several large brands and a number of high street retailers. However, it is still a voluntary initiative that is not part of UK regulation. In 2022, the IPF found that less than 25% of brands would be interested in integrating digital tracking into their designs to help other stakeholders access item-specific information. A number of respondents were interested in considering integrating such RFID tags or QR codes into clothing if it could help increase product transparency.⁷ Meanwhile, less than 10% of high-end designers surveyed said they are considering integrating digital tracking due to the uncertainty of how it can be integrated. Respondents cited cost as a barrier, especially for small

businesses. A minority were willing to adopt digital tracking but would require the help of a specialist technology developer for integration.⁷ Comparatively, many digital innovators are creating digital tracking to help stakeholders access item specific information, so there is opportunity for change at scale.⁷

PRIMARY RESEARCH RESULTS

A systemic solution is required within the upstream supply chain to enable a circular fashion ecosystem and ultimately meet the government's Net Zero targets. Of those attending the BFC × IUK × UKFT Workshop in January 2023, 64% of organisations stated they faced policy and regulation barriers to implement a circular fashion ecosystem. Sustainable manufacturing and circular business models were named by participants as priority issues.

Two years previously, in 2021, the BFC asked designer businesses in its member network what they needed in terms of government support. Financial investment in UK manufacturing and a reduction in taxes for small businesses were major themes. Others included easier trade with Europe post-Brexit, and better recycling infrastructure. Findings from both the BFC × IUK × UKFT Workshop and BFC designer survey echo the findings from the research results below.

With the aims of the research in mind, the following provides a summary of the stakeholder needs that emerged from the analysis. Four industry needs were deemed to be the most challenging areas where government interventions and assistance could enable high impact change in the upstream supply chain, per Figure 5.

STAKEHOLDER NEEDS WITHIN THE UPSTREAM SUPPLY CHAIN:

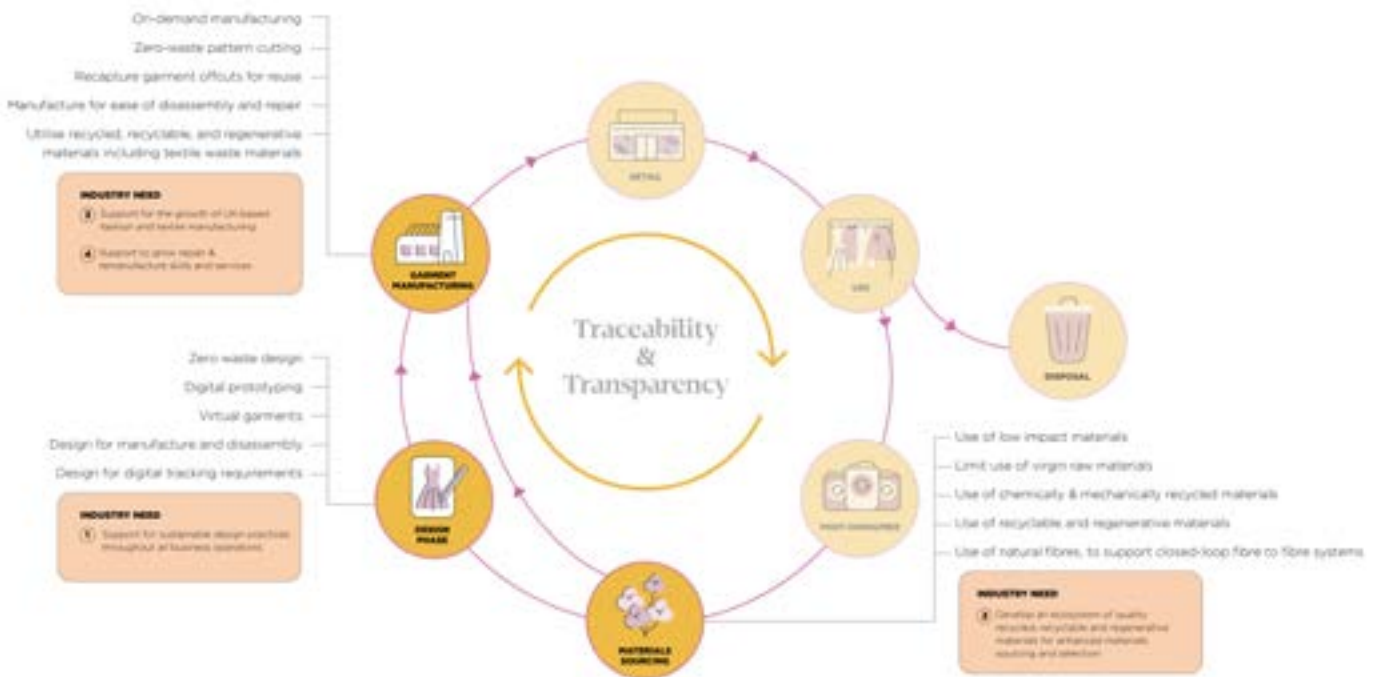


FIGURE 5: STAKEHOLDER NEEDS WITHIN THE UPSTREAM SUPPLY CHAIN THAT WOULD ENABLE A GREEN TRANSITION

Design: Support for Sustainable Practices. Designers interviewed who are working on sustainable initiatives, discussed how they use sustainable practices and which government interventions could enhance commitments towards reducing waste and the use of low impact materials and processes. They requested associated industry regulations are made clear and concise so that brands can invest in making more conscious choices. Better technology and innovation to capture data across the supply chain, such as the use of blockchain technology, would also help enable the correct measurement of sustainability commitments.

Kresse Wesling, of Elvis & Kresse which makes bags and homeware using reclaimed materials including decommissioned firehoses, would like to see legislation to reduce the huge volumes of products currently produced in the fashion industry, providing incentives on goods that meet certain sustainability and circularity criteria by suggesting no VAT chargeable. Kresse proposes, for instance, if the percentage of waste used by a brand is more than 60% then VAT drops to 10%, and more than 80% then VAT could drop to zero.

“Ideally, we would like to see legislation to prevent the huge volumes of products produced where environmental degradation and modern slavery is involved. There could also be no VAT chargeable on goods like ours.” KRESSE WESLING CBE, CO-FOUNDER AND DIRECTOR, ELVIS & KRESSE

Main Stakeholders Affected: Designers, Brands.

Other Stakeholder Affected: Manufacturers.

In parallel to these qualitative insights, survey findings indicate industry professionals perceive a range of challenges to sustainable practices and which sustainable practices are currently in use across the fashion industry.

In the CFE Phase 2: Progress Report (2022) survey:⁷

→ Mid-market, high-end designers and brands who are employing circular design approaches were asked which approaches they use. More than three quarters (77%) said they designed to minimise waste; for example low-waste pattern cutting, upcycling or reconstructing existing material resources. Minimising waste is one of the two most widely used approaches to circular design, along with designing for longevity of use (also 77%).

Meanwhile, the IPF Forum 2023⁵⁸ survey highlighted the benefits of improved transparency:

→ The majority of these respondents (96%) said better transparency on the impact of materials would help in business decision making. A sub-sample of reprocessors responded to the CFE Phase 2: Progress Report’s (2022) survey (sub-sample size: 6) and provided detailed comments on digitising product information. Of these, most (5) said designs with QR or RFID tags that hold product information would be most helpful. Half suggested designs that can be easily disassembled into parts for refurbishment or recycling, or designs using mono-materials (both mentioned by 3).

The IPF Forum 2023 survey further asked industry professionals which government interventions can support industry to implement sustainable practices in business operations, and 93% mentioned tax breaks or VAT reduction.

Participants of IPF Forum 2023⁵⁸ Hack 1: Creating Circular Ecosystems (please see Appendix 2), were asked ‘what government interventions – including policy changes – could support businesses to enable this green transition?’ Analysis of participants’ answers from the session suggested a strong theme for the need of financial measures. This came out across the four workshop groups, comprising over 70 industry actors collectively who suggested these interventions to:

- Provide financial support to allow small businesses to collaborate
- Provide tax incentives for sustainable and circular businesses
- Offer tax exemptions and reliefs for businesses that use circular materials and innovations
- Tax larger companies for production volumes, to address overproduction
- Impose fines and levies for those who are causing pollution
- Create a cap on the volumes of non-circular products that companies can produce

The survey within the CFE Phase 2: Progress Report (2022)⁷ asked respondents what they perceived to be the three main industry challenges.

- The top two were policy and regulation and circular design (47% and 45% respectively). Around a third highlighted the post-use ecosystem (37%), investment (35%), sorting and recycling (34%) and implementing circular and sharing business models (34%).⁷
- Furthermore, demand for recycled and renewable fibres (25%), consumer empowerment (22%), enhanced identification and tracking (12%) and ecosystem modelling (12%) were also noted.⁷

Finally, there were a range of opinions expressed in the IPF Forum 2023⁵⁸ survey on which of the upcoming regulation changes from the EU textiles strategy the UK could consider implementing to further support sustainable practices.

- Around four in five (78%) said materials transparency legislation, seven in ten (70%) mentioned EU Ecodesign for Sustainable Products, six in ten (63%) mentioned EU Due Diligence Act, while around half said the extended producer responsibility tax via EU waste legislation or digital product passport regulation (both 56%).⁵⁸

3 *Sourcing: An Ecosystem of Recycled, Recyclable, and Regenerative Feedstock.* There are not enough options for designers to source recycled materials for their collections due to the lack of quality recycled feedstock. Designers spoke of the struggles of having a small range of recycled materials to choose from, and the lack of consistency in the look and feel of the material.

Laboni Saha, of L Saha, a womenswear label that produced a call to action to global Governments at COP27, which included regulation of terminology used in ad campaigns, is sourcing recycled feedstock from a textile recycling organisation in Europe. Due to the consistency in quality found with this supplier, the brand intends to increase its percentage of recycled and upcycled materials between now and 2025 by over 30% in comparison to previous collections. However, Laboni also explained the ease of access to recycled material from EU suppliers is challenging due to Brexit.

“The major challenge in using recycled material from the UK is consistency in the look and feel of the material. The ease of access to recycled material from EU suppliers post Brexit is far less in comparison to pre-Brexit years.” LABONI SAHA, FOUNDER AND CREATIVE DIRECTOR, L SAHA



Amy Trinh of WED Studio, a womenswear brand focused on fundamental principles of ‘Cut, Craftsmanship and Creating consciously’, explained there needs to be a cap on exporting textile waste created by the Global North, and that this will increase innovation opportunities within the UK to utilise used textiles. In order to overcome the barriers to scale, she recommended that leaders and innovators need to join together to receive investment support to scale fibre-to-fibre recycling technologies in the UK.

“We have the capacity to increase recycled fabrications, but there needs to be a cap on exporting textile waste created by the Global North. Ultimately there is limited innovation in recycling when we do not have the problem facing us directly.” AMY TRINH, CO-FOUNDER AND CREATIVE DIRECTOR, WED STUDIO

The IPF Forum 2023⁵⁸ survey identified industry professionals’ four top barriers to increasing use of recycled and recyclable inputs:

→ Over a third (37%) mention cost; three in ten (30%) say availability/sourcing issues, the quality and durability of materials was referenced by one in five (20%) and the issue of scale and scalability by around one in ten (11%).

Furthermore, the survey participants identified a range of barriers to increasing the use of recycled and recyclable inputs, such as:

→ Lack of supply, low quality and performance, cost, availability of recycling facilities and scalability issues. Reflecting these concerns, the majority (93%) would support investment for more R&D in the areas of technologies to provide quality recycled, recyclable and regenerative feedstock.

A strong theme which arose from each of the four groups comprising 70 participants of the IPF Forum 2023⁵⁸ Hack 1: Creating Circular Ecosystems, was a need to:

- Offer tax exemptions and reliefs for businesses that use circular materials and innovations
- Provide incentives for use of circular and sustainable fibres and materials (including feedstock)

One of the main barriers to accessing quality recycled feedstock is the lack of sorting of used materials for recycling in the UK. ⁷ The financial incentives for UK-based sorting are limited, since there is an established business model exporting used textiles abroad. However, UK innovators in textile recycling, such as Worn Again Technologies,³³ which chemically recycles textiles such as cotton and polyester, has mapped a closed-loop circular ecosystem.

UKRI's Circular Fashion Programme will fund a recycling and sorting demonstrator project,³⁴ which launches in 2023. This long-term programme has the potential to positively impact the entire ecosystem. The cost of sorting non-rewearable textiles in the UK needs to be reduced, or mechanical and chemical recycling will not be economically viable. Achieving materials circularity for non-rewearable textiles is important.

Main Stakeholders Affected: Designers, Brands.

Other Stakeholders Affected: Manufacturers, Reprocessors.

4 *Manufacturing: Establish growth of UK Manufacturing.* Designers see value in being able to visit UK garment manufacturers to solve problems, with shorter lead-times and better connection with product and processes, especially shorter transportation of goods resulting in lower GHG emissions. There are also opportunities for the UK to lead on sustainable and local manufacturing, in particular as part of a manufacturing system that uses recycled feedstock. This can then be used as a basis to increase the value of UK IP for export.

Results from the IPF Forum 2023⁵⁸ survey supports this:

- With four in five (78%) industry professionals saying they saw value in being able to grow UK garment manufacturing. When asked to elaborate on their views, respondents identified how this could be facilitated, such as the provision of 'infrastructure, skill set, capacity is required'.
- Benefits were also highlighted, such as 'reduce emissions and the creation of jobs' but also 'localised, quality and on demand manufacturing can help both reduce inventory and help build local circular loops'.

UK-based manufacturing creates jobs and skills, and means designers and brands are more in control of production. As part of the UK's Levelling Up Agenda, technical training in manufacturing processes offers job opportunities across the supply chain, from the manufacture of recycled feedstock, to garment manufacturing and the re-manufacture or repair of used garments. There is an opportunity to use technology, such as smart robotics and on-demand manufacturing technologies, to address labour costs in UK manufacture compared to that abroad. As well as the creation of decent work and economic opportunities, resource efficiency is relevant to the conversation, to make sure material resources are utilised as much as possible throughout the ecosystem.

Main Stakeholders Affected: Manufacturers

Other Stakeholders Affected: Designers, Brands.

5 *Manufacturing: Support to grow repair & remanufacturing skills and services.* The need for practical training within the fashion industry, especially in the case of seamsters to support an economy of remanufacture and repair is paramount. Designers are currently

experiencing internship applications from students wishing to be taught practical skills in relation to designing for circularity.

“Increased practical rather than theoretical training within fashion would be more relevant, as this would mean that people can find reasonable ways to apply what they have learnt and make measurable changes to the industry.” LABONI SAHA, FOUNDER AND CREATIVE DIRECTOR, L SAHA

The IPF Forum 2023 survey⁵⁸ asked industry professionals if there is sufficient focus on practical skills for repair, maintenance and remanufacture techniques.

→ The majority felt this was lacking: three in five (59%) said no, and around a quarter (26%) said there is not enough focus.

Among academics teaching design at university level there is already interest in addressing these themes. In the CFE Phase 2: Progress Report's (2022)⁷ survey:

- Academics (sub-sample size: 11) were asked which circular design approaches they are teaching. Nine out of ten (90%) said they teach design to minimise waste or design for longevity of use (both 91%).
- Academics also teach design for recyclability at end of life (82%) and design for use of low-impact materials and fibres, or processes such as dyeing (64%).

For the circular economy to grow, it is important to include relevant repair and maintenance education along these same lines starting at secondary or even primary school, and not reserve it for specific undergraduate degrees at university level. Intervention points earlier in the school system therefore reaches far wider society. This has the potential to inspire it at an earlier life stage which could proceed to inform choices on further education, training, and work. This has long-term impact and is an inclusive approach, given given not everyone is able to afford the costs associated with attending university and further education.

Increasing this knowledge will enable growth in those designing for circular and sharing business models from the outset. It is by improving the quality and durability of products that how many items of clothing are reused, resold, or repaired is affected.

What is then necessary is that an increase in solutions for reuse, repair and redesign exist within the downstream part of the supply chain to facilitate greater uptake. These are the easiest access points from a citizen and consumer perspective.

IN SUMMARY:

The four industry needs outlined here are interlinked in their approach to accelerating a circular fashion ecosystem in the upstream supply chain.



For example:

There is a need for industry regulation for low impact materials within fashion, which includes materials with a recycled and recyclable content.

- For those materials to be more readily available on the market, funding is required to accelerate and scale technologies that provide quality recycled feedstock.
- The main barrier to recycling is the lack of sorting of used textiles within the UK.

Tax incentives have the potential to push designers and brands to enable and maintain sustainable practices once the ecosystem has been boosted through funding support for quality recycled feedstock, including fair conditions to grow UK manufacturing, and education and training in technical skills. This presents huge opportunities within the UK for a boost in textiles and garment manufacture.

Although the fashion industry is mostly characterised by a fast-paced, trend-driven business model, which can make it difficult to implement long-term sustainability measures, citizen behaviour change could be a powerful tool to shift the sustainability narrative. Growing demand for sustainable and ethical fashion can also provide a market incentive, with interventions to help to support this transition. As highlighted by this report, there is a need for policies that promote sustainable and circular fashion practices in the upstream supply chain, such as the use of fibre-to-fibre recycled, recyclable and renewable fibre content, to further facilitate it.

There is economic opportunity in the fashion industry increasing its adoption of more circular business models, with multiple revenue streams achieved through new services such as restoration and customisation. Many high street as well as high-end brands are already adopting elements of repair into their business offering. The revenue benefits are increased loyalty and access to customer and product use data. At the same time, costs can be reduced due to savings from better resource productivity and risk reduction from improved inventory management.

2.3 RELEVANT UK AND EU POLICIES (EXISTING AND PROPOSED)

In order to propose recommendations, a review of existing UK and EU policies that could hold relevance to fashion's upstream supply chain was required. At present, there are no current policies impacting the fashion and textiles industry directly, apart from the Modern Slavery Act. The Net Zero by 2050 agenda does not outline sector-specific targets for fashion and textiles when measuring the UK's obligations for Nationally Determined Contributions under the Paris Agreement.³⁵

The following are a list of related and relevant policies this research report has reviewed. More detail on each policy can be found in Appendix 1.

MODERN SLAVERY ACT.³⁶

NET ZERO BY 2050.³⁷

GREEN CLAIMS CODE, BY THE CMA.³⁸

The following are existing UK government policies that are currently not specific to the fashion industry, however, hold relevance to the prosperity of the UK fashion industry:

ECODESIGN REGULATIONS (DISHWASHER AND WASHING MACHINE).³⁹

PACKAGING EXTENDED PRODUCER RESPONSIBILITY (EPR).⁴⁰

PLASTIC PACKAGING TAX.⁴¹

Other relevant proposed initiatives impacting the UK market (for those businesses who wish to do business with anyone in the EU single market), specifically stakeholders working in the upstream supply chain, is the EU's new circular action plan (CEAP) which the European Commission adopted in March 2020.⁴² As part of this, the EU has a Strategy for Sustainable and Circular Textiles,⁴³ with an aim to create a new sustainable ecosystem for textiles by 2030. The shift is focused on industry and consumers and proposes actions to change production and consumption elements of fashion and textiles.

→ *EU Digital Product Passport (DPP).*⁴⁴

→ *EU Green Claims Directive.*⁴⁵

→ *EU Due Diligence Act.*⁴⁶

→ *The Import One-Stop Shop (IOSS).*⁴⁷

→ *EU proposed Ecodesign for Sustainable Products Regulations.*⁴⁸

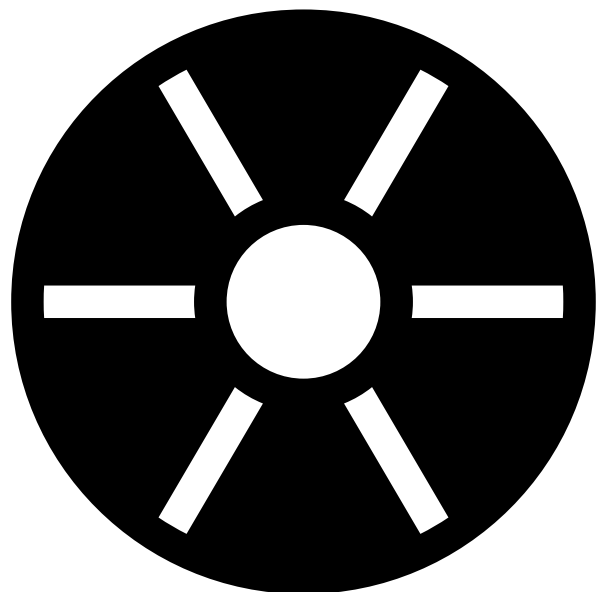
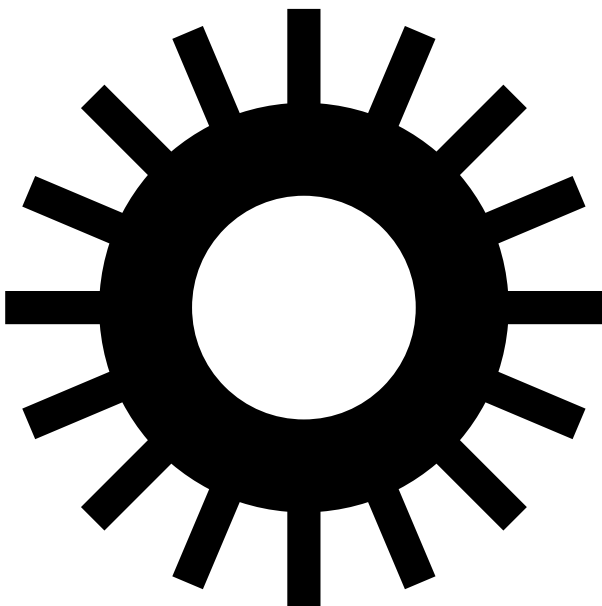
→ *Proposed Corporate Sustainability Due Diligence Directive (CSDD).*⁴⁹

→ *EPR Per the EU Textiles Strategy: 'the Commission will propose harmonised EU extended producer responsibility rules for textiles with eco-modulation of fees, as part of the forthcoming revision of the Waste Framework Directive in 2023'*

While the policies outlined above are a positive step towards a more circular fashion industry within the UK, there are challenges to their implementation. One of the main challenges is the lack of enforcement mechanisms. However, EU regulations coming in will change this, and likely accelerate action within the UK.

The UK Government supported the Sustainable Clothing Action Plan (SCAP) aimed at promoting sustainable and ethical practices in the fashion industry. SCAP was launched in 2013 and is a collaborative voluntary initiative between government, businesses, and non-governmental organisations.⁵⁰ The aim of the plan was to reduce the environmental impact of clothing across the entire lifecycle, from production to disposal. WRAP's Textiles 2030 initiative⁵¹ builds on the learnings of SCAP, involving signatories setting individual targets, reporting on progress and collaborating to deliver group targets at national level, and overall contributing to global priorities for the sector.

7 Recommendations



As evidenced in this report, there are many interventions that could be introduced to support the activities of the fashion and textiles industry to accelerate a circular fashion ecosystem; specifically to assist designers, brands and manufacturers create a more circular, sustainable and innovative fashion industry, benefitting both the environment and the UK economy. The following proposed recommendations are considered to have high impact with overarching objectives as well as industry stakeholder needs.

While literature has demonstrated vast needs and requirements, the research has shown value in identifying possible fiscal incentives and opportunities for funding and long-term policies to enable the green transition. These activities could be comprised of R&D, private investment, innovative materials, business models and innovation to thrive in the marketplace.

Doing so will enable the UK to be seen as an exemplar of forward-thinking industry change, focused on circular practices to protect the earth's depleting resources while supporting societal gain and a flourishing creative economy that has opportunity for export. Many of these recommendations could be applied to other parts of the value chain to accelerate best practices.

The recommendations are based on the research results of the report, organised under the four major stakeholder needs identified in fashion's upstream supply chain.



FIGURE 6: POTENTIAL GOVERNMENT INTERVENTIONS FOR THE UPSTREAM FASHION SUPPLY CHAIN, INSTITUTE OF POSITIVE FASHION, 2023

The following provides a deeper dive into each of the stakeholder needs and associated potential interventions points. Related EU and UK policies are mapped against each as well as the evidence base and benefits of each intervention. Evidence provided in this section comes from the Insights chapter in Section 2. Please refer back to Section 2 for related references and sample sizes.

SUPPLY CHAIN AREA: DESIGN

Industry need identified: Support to mainstream sustainable design practices throughout business operations

Recommended interventions:

- 1 Business incentives including tax breaks and VAT reduction
- 2 Digital product passport regulation
- 3 Ecodesign regulation for apparel
- 4 Extended Producer Responsibility (EPR) tax
- 5 Materials impact transparency legislation

Rationale: Designers interviewed who are working on sustainable initiatives welcomed tax related benefits for commitments towards reducing waste and the use of low impact materials and processes. Associated industry regulations need to be clear and concise so that brands can invest in making more conscious choices. Better technology and innovation to capture data across the supply chain, such as the use of blockchain technology, can enable the correct measurement of sustainability commitments.

Intervention	Business incentives including tax breaks and VAT reduction
Description	<p>Incentives for businesses that adopt sustainable and ethical practices. This could include tax breaks or VAT reductions for those who use sustainable materials during the design process, reduce their carbon footprint, or ensure all workers are paid a living wage throughout the supply chain.</p>
Primary evidence through industry engagement	<ul style="list-style-type: none"> → BFC member network engagement (2021): SMEs required financial investment in UK manufacturing and reduction in taxes for small businesses. → Survey of IPF Forum (2023)¹ participants: strong support for tax breaks and VAT reduction (93%) → Participants of IPF Forum (2023) Hack 1 (please see Appendix 2): strong theme of a need for financial measures came out across the four workshop groups comprising over 70 industry actors, who cited a need to: <ul style="list-style-type: none"> → Provide financial support to allow small businesses to collaborate → Create tax incentives for sustainable and circular businesses → Offer tax exemptions and reliefs for businesses that use circular materials and innovations → Tax the big players for overproduction → Impose fines for polluters
Related policy and industry reports, industry initiatives and policy case studies	<ul style="list-style-type: none"> → ‘Sweden context: Stockholm’ – (see Section 2.1) clothing tax introduced in 2018 levied on all new garments sold in Sweden based on the price of the garment. Revenue generated from the tax is used to fund research and development of sustainable fashion and textile production, as well as to promote sustainable fashion practices among consumers and businesses. → EAC, 2019, <i>Fixing Fashion</i>: recommended taxation is reformed to reward fashion companies that design products with lower environmental impact, penalising those who fail to do this through additional taxation per garment, raising funds to invest in better clothing collection and sorting.
Benefits	<p>Designers interviewed who are working on sustainable initiatives welcomed tax related benefits for commitments towards reducing waste and the use of low impact materials (including use of natural over synthetic, for example) and processes. Doing so can drive more designs for circularity, in terms of durability of textiles and repairability. However, associated industry regulations need to be clear and concise to enable brands to make informed choices.</p>

¹ Sample size: 27 respondents

Intervention	Digital product passport regulation
Description:	<p>Introduce legislation for garment labelling, ensuring designers, brands, suppliers, and manufacturers provide more information on material composition and provenance using existing and scalable technologies, such as blockchain, QR codes or RFID tags. This will enable UK businesses to be aligned with upcoming legislation across the EU.</p>
Primary evidence through industry engagement	<ul style="list-style-type: none"> → CFE Phase 2: Progress Report (2022): a small sample of reprocessors² provided detailed feedback and insights on the need to digitise product information. Most (5) said designs with QR or RFID tags that hold product information would be most helpful. Half suggested designs that can be easily disassembled into parts for refurbishment or recycling, or designs using mono-materials (both mentioned by 3). → Survey of IPF Forum 2023 participants: majority of respondents (96%) said better transparency on the impact of materials would help in business decision making. Furthermore, this survey asked respondents which regulation changes from the EU Textiles strategy could the UK consider implementing, and around three quarters (78%) said digital product passport regulation. → IPF CFE Phase 2: Progress Report (2022): explored interest and uptake of digital tracking across the industry. Overall, digital tracking not widely seen as a priority - Less than 25% of brands were interested in integrating digital tracking into their designs. Less than 10% of high-end designers surveyed were considering integrating digital tracking. Barriers to integration due to the uncertainty of how it can be integrated and cost, especially for small businesses. There are a handful of leaders in this area, including brands and high street retailers who are voluntarily integrating digital tracking. The survey also identified digital innovators who are creating digital tracking to help stakeholders access item specific information.
Related policy and industry reports, industry initiatives and policy case studies	<ul style="list-style-type: none"> → European Commission (2022) Ecodesign for Sustainable Products Regulation (ESPR): EU Digital Product Passport is still in the development phase, set to be published as part of the ESPR in 2024.
Benefits:	<p>Prepares UK industry for upcoming changes in the EU if UK businesses wish to operate in the single market. Doing so opens up opportunities to report on due diligence throughout the supply chain, and provide data for stakeholders on garment history, use and recycling. There is potential for benefits to empower consumers to care and repair their garments, thus keeping products in use for longer. It could also help to reduce waste and improve resource efficiency by making it easier to recycle and reuse products at the end of their lifecycle.</p>

Intervention	Extended Producer Responsibility (EPR)
Description	<p>Introduce a textiles EPR scheme that would require UK organisations to take responsibility for textile waste produced along their supply chain via the introduction of a tax. As part of waste standards, definitions and processes for recyclable and non-recyclable textiles could be standardised, thus creating clearer definitions of waste.</p>
Primary evidence through industry engagement	<p>→ IPF CFE Phase 2: Progress Report (2022) survey³: mid-market, high-end designers and brands who are employing circular design approaches were asked which approaches they use. 77% said they designed to minimise waste – e.g. involving low-waste pattern cutting, upcycling or reconstructing existing material resources. Minimising waste is one of the two most widely used approaches to circular design, along with design for longevity of use (also 77%).</p> <p>→ IPF Forum (2023) survey participants: identified a significant majority (93%) would support investment for more R&D in the areas of technologies to provide quality recycled, recyclable, and regenerative feedstock. Survey findings highlighted barriers to increasing the use of recycled and recyclable inputs, such as: lack of supply, low quality and performance, cost, availability of recycling facilities and scalability issues.</p>
Related policy and industry reports, industry initiatives and policy case studies	<p>Existing schemes in France and Sweden. For France: The French EPR scheme for clothing, linen and footwear has nearly trebled collection points since 2007 to nearly 42,000 in 2016 and collection rates have increased by 50%. Furthermore, the scheme has provided 1,400 new full-time jobs, with 49% going to people facing employment difficulties.²¹ The French EPR scheme is part of a broader initiative called the Anti-Waste Law, which was passed in February 2020 and came into effect in January 2023.²⁴ The Anti-Waste Law aims to reduce waste in several sectors, including fashion and textiles, and sets targets for the reduction of textile waste. The law also includes provisions for improving product information and labelling to help consumers make more sustainable choices. This has driven traceability throughout the supply chain.</p> <p>Useful proxy in the UK is the plastic bag tax and plastic packaging – See: DEFRA (2022) Packaging Waste: Prepare for Extended Producer Responsibility.⁴⁰</p>

Intervention	EcoDesign regulation
Description	The UK Government could introduce fashion-specific regulations inspired by the draft legislation for dishwasher and washing machines. This would mean that any fashion product meeting specific environmental criteria must be labelled clearly and must not use misleading terms.
Primary evidence through industry engagement	Survey of IPF Forum 2023 participants: 56% respondents cited support for EU Ecodesign for sustainable product measures being helpful in the UK
Related policy and industry reports, industry initiatives and policy case studies	EcoDesign regulations focus on the manufacturing requirements, environmental performance, and appropriate labelling and marketing of eco-designed products. Relevant legislation include: UK Government's (2021) The Ecodesign for Energy-Related Products and Energy Information Regulations, and The EU's (2022) proposed Ecodesign for Sustainable Products Regulation, which includes sustainable and circular textiles as a priority product group.
Benefits	Driving ecodesign from the outset can help to reduce waste, aligned with Net Zero and wider EU targets.

Intervention	Material impact transparency legislation
Description:	Introduce legislation that requires suppliers and manufacturers to provide information on the environmental impact of materials produced for the fashion industry. This would require traceability of material provenance, and the provision of Life Cycle Assessments (LCAs) for materials.
Primary evidence through industry engagement	IPF CFE Phase 2: Progress Report (2022): identified the top three circularity challenges as: policy and regulation (47%), circular design (45%) and the post-use ecosystem (37%). The more technical issue of enhanced identification and tracking mentioned as a top challenge by around one in ten (12%).
Related policy and industry reports, industry initiatives and policy case studies	Textile Exchange and the UNFCCC's Fashion Industry Charter for Climate Action (2021) collaborated to launch the voluntary 2025 Recycled Polyester Challenge. The challenge aims to reduce the industry's reliance on virgin fossil-based resources entering the system, increase recycled polyester use, and see associated reduction in GHGs. Initiatives such as this highlight the lack of transparency, and limited legislation, on material environmental impact.
Benefits:	This would enable designers and brands to choose the materials that fit best within a circular business model and offer greater transparency on clothing impact for citizens. Associated reduction in GHGs and enhanced progress on the path to net zero.

SUPPLY CHAIN AREA: SOURCING

INDUSTRY NEED IDENTIFIED:

The UK fashion industry needs an ecosystem of quality recycled, recyclable and regenerative materials for enhanced materials sourcing and selection

RECOMMENDED INTERVENTIONS:

- 1 Funding for technologies to provide quality recycled, recyclable and regenerative feedstock
- 2 Funding textile sorting infrastructure in the UK
- 3 Materials impact transparency legislation
- 4 Digital product passport regulation
- 5 Extended Producer Responsibility (EPR) tax

Rationale: There are insufficient options for designers to source recycled materials for their collections due to the lack of quality recycled feedstock. Designers spoke of the struggles of having a small range of recycled materials to choose from, and the lack of consistency in the look and feel of the material.

Intervention Funding for technologies to provide quality recycled, recyclable, and regenerative feedstock	
<p>Description:</p>	<p>Recommend providing funding for specific research and development of new fibre-to-fibre recycling technologies, and support initiatives that promote the reuse and recycling of textiles, and use of regenerative and recyclable content. This would be in parallel with sorting used textiles within the UK for domestic recycling.</p>
<p>Primary evidence through industry engagement</p>	<ul style="list-style-type: none"> → Designers interviewed in this report highlighted the struggles of having a small range of recycled materials to choose from, and the lack of consistency in the look and feel of the material. Laboni Saha, of womenswear label L Saha, said access to recycled material from EU suppliers is more difficult post Brexit. Similarly, Amy Trinh, of womenswear brand WED Studio, explained there needs to be a cap on exporting textile waste created by the Global North, and that this will increase innovation opportunities within the UK to utilise used textiles. To overcome barriers to scale, she recommended leaders and innovators need to join together to receive investment support to scale fibre-to-fibre recycling technologies in the UK. → Participants of IPF Forum 2023 Hack 1 (please see Appendix 2): strong theme of a need for financial measures came out across the four workshop groups comprising over 70 industry actors, who cited a need to: <ul style="list-style-type: none"> → Offer tax exemptions and reliefs for businesses that use circular materials and innovations → Provide incentives for circular and sustainable fibres and materials (includes feedstock)
<p>Related policy and industry reports, industry initiatives and policy case studies</p>	<ul style="list-style-type: none"> → IPF CFE Phase 2: Progress Report (2022): less than 30% of manufacturers surveyed were collecting and reusing textile waste from the supply chain, due to the lack of quality or consistency. → Providing an ecosystem of quality recycled, recyclable and regenerative feedstock is in line with the current work of the UKRI Circular Fashion Programme: recycling and sorting demonstrator project, which seeks to address achieving circularity for non-rewearable textiles. → Academics such as Mizrachi & Tal (2022) 22 have called on government assistance for the shared use of innovative technologies and excess textiles to help reduce the environmental costs of production, and provide greater product value. → In The BFC's Fashion's Path to Net Zero (2021), 22 organisations across the fashion industry – including global luxury and high street brands and manufacturers - agreed that funding for technologies that provide quality recycled feedstock would boost the ecosystem.
<p>Benefits:</p>	<p>Enabling more access to quality sustainable fibres will displace use of virgin materials, reduce biodiversity loss and reduce associated GHG emissions in the supply chain. This would help meet UK net zero targets, alongside other interventions.</p>

Intervention	Funding textile sorting infrastructure in the UK
Description:	<p>The UK Government could support the post-use infrastructure of the fashion and textile industry by investing in wholesale changes to textile sorting technologies for better recycling.</p>
Primary evidence through industry engagement	<ul style="list-style-type: none"> → Designers interviewed for this report mentioned specifically the lack of sorting of used textiles within the UK as one of the main barriers to recycling. → IPF Forum survey (2023) participants: the top four barriers to increasing use of recycled and recyclable inputs included cost (37%), availability/sourcing issues (30%), quality and durability of materials (20%) and the issue of scale and scalability (11%).
Related policy and industry reports, industry initiatives and policy case studies	<ul style="list-style-type: none"> → UK innovators in textile recycling, such as Worn Again Technologies, which chemically recycles blended textiles, has mapped a closed-loop circular ecosystem, indicating how this can be achieved in practice. → The UKRI Circular Fashion Programme: recycling and sorting demonstrator project, has the potential to positively impact the entire ecosystem. → ‘Copenhagen 2025’, (see Section 2.1) includes initiatives such as textile sorting and recycling facilities, a network of second-hand clothing stores, and clothing rental services. Copenhagen’s (2019) Sustainable Fashion Charter promotes sustainable practices in the fashion industry, including reducing waste, increasing the use of sustainable materials and promoting circular business models. → The UK Government supported the, now replaced, Sustainable Clothing Action Plan (SCAP) in 2013 aimed at reducing the environmental impact of clothing across the entire lifecycle, from production to disposal. WRAP’s Textiles 2030 builds on the learnings of SCAP, involving signatories setting individual targets, reporting on progress and collaborating to deliver group targets at national level, and overall contributing to global priorities for the sector.
Benefits:	<p>Designers and brands can accurately design for disassembly and recycling, with clear knowledge of the requirements for textiles sorting. By promoting a circular economy model that ‘closes the loop’, the government can help to reduce waste and promote a more sustainable fashion industry, aligned with Net Zero and wider EU targets. This can, in turn, affect infrastructure for citizens, including enhanced kerbside collection.</p>

Intervention		Material Impact Transparency Legislation
Description:	<p>Introduce legislation that requires suppliers and manufacturers to provide information on the environmental impact of materials produced for the fashion industry. This would require traceability of material provenance, and the provision of Life Cycle Assessments (LCAs) for materials.</p>	
Primary evidence through industry engagement	<ul style="list-style-type: none"> → IPF Forum 2023 survey: material impact transparency legislation was mentioned by around four in five (78%) respondents asked which regulation changes from the EU textiles strategy the UK could consider implementing to further support sustainable sourcing. → IPF CFE Phase 2: Progress report (2022): identified the top industry challenges as policy and regulation and circular design (47% and 45% respectively). Around a third highlighted the post-use ecosystem (37%), investment (35%), sorting and recycling, and implementing circular and sharing business models (both 34 %). Furthermore, demand for recycled and renewable fibres (25%), consumer empowerment (22%), enhanced identification and tracking (12%) and ecosystem modelling (12%) were also highlighted. → BFC’s Fashion’s Path to Net Zero (2021) identified many industry challenges, including opaque supply chains: lack of visibility and traceability, non- accurate data flows 	

<p>Related policy and industry reports, industry initiatives and policy case studies</p>	<ul style="list-style-type: none"> → At present, polyester is set to account for 85% of total fibre production by 2030 and is currently the most popular material used in the fashion and textiles industry. → The city of Amsterdam, The Netherlands (see Section 2.1), has set a goal to be circular by 2050, aiming to reduce CO2 emissions by 55% by 2030. One example of its strategy is the Amsterdam City Doughnut, based on a framework that was developed by British economist Kate Raworth in 2012. The initiative includes extending the life cycle of fashion and textiles by adopting the waste hierarchy of reducing, reusing and recycling. → The international alliance The Denim Deal (2019) (see Section 2.1) promotes sustainable practices in the denim industry, focusing on: sustainable materials, the reduction of water usage and pollution, promotion of circularity, and transparency and traceability. The goal is that by the end of 2023, three million denim jeans containing 20% post-consumer textiles will have been produced. → EU Due Diligence Act. Commodities and associated products that are placed on the EU market (imported, exported, traded) will be required to be deforestation free – this includes those relevant to fashion such as leather, rubber and wood products (such as lyocell). The Act will require traceability back to plantation, and evidence of provenance that includes geolocation of all plots of land involved. ‘Substantiated concerns’ can be raised by anyone and trigger a legal response, with operators and traders being held liable. → In France, as of 2019 (see Section 2.1), fashion sellers and retailers are prohibited from throwing away, discarding or incinerating unsold clothes. The law requires clothing companies to donate their surplus and unsold clothing, meaning they take substantial responsibility for production quantities as well as logistical measures.
<p>Benefits:</p>	<p>Improved transparency will enhance informed choice among designers, brands and citizens. Improved transparency can increase awareness of the energy intensive production process required by synthetic materials, with damaging microfibre waste often released into the environment. This would enable designers and brands to choose the materials that fit best within a circular business model.</p>

Intervention	Digital Product Passport Regulation
Description:	As above
Primary evidence through industry engagement	As above
Related policy and industry reports, industry initiatives and policy case studies	As above: EU Digital Product Passport (DPP) as part of the Ecodesign for Sustainable Products Regulation
Benefits:	As above

Intervention	EPR
Description:	As above
Primary evidence through industry engagement	<p>→ The CFE Phase 2: Progress Report (2022), retailers were asked with circular design approaches they would encourage. Among this small survey subgroup, all (11) said they would encourage design for longevity of use, and most said they would encourage design to minimise waste (9), design for low-impact materials and processes (8), and design for recyclability at end of life (7).</p> <p>→ The IPF Forum Survey examined how industry professionals view various EU regulation changes, which could be implemented in the UK to further support sustainable sourcing. Extended producer responsibility tax via EU waste legislation was mentioned by around half (56%).</p>
Policy and industry reports, industry initiatives and policy case studies	As above
Benefits:	As above

SUPPLY CHAIN AREA: MANUFACTURING

Industry need identified: The UK fashion industry needs support for the growth of UK-based fashion and textile manufacturing

RECOMMENDED INTERVENTIONS:

- 1 Fair conditions for growth of UK manufacturing
- 2 Extended Producer Responsibility (EPR) tax
- 3 Digital product passport regulation

Rationale: Designers see value in being able to visit UK garment manufacturers to address problems, with shorter lead-times and better connection with product and processes, especially reduced transportation of goods resulting in lower GHG emissions. There are also opportunities for the UK to lead on sustainable and local manufacturing, in particular as part of a manufacturing system, which could, in time, use local recycled feedstock in line with wider UKRI-investment for a UK-based recycling facility.

Further, it is worth noting that there is currently an open Call for Evidence from government taking place in May 2023 from the Migration Advisory Committee (MAC) for the Shortage Occupation List (SOL) whereby the BFC and UKFT and industry-wide organisations, have the opportunity to submit their own evidence to ensure we address the industry skills gap and are able to compete on the global stage.

Intervention	
Establish fair conditions for the growth of UK-based manufacturing	
Description:	<p>Government interventions would help to enable stronger enforcement on the minimum wage rules, such as providing a Garment Trade Adjudicator as part of a just and fair transition to a circular and sustainable economy. Investment in innovations and technologies will also help accelerate scale and uptake, including advancing smart robotics and on-demand manufacturing technologies.</p>
Primary evidence through industry engagement	<ul style="list-style-type: none"> → IPF Forum 2023 Survey: four in five (78%) industry professionals see value in being able to grow UK garment manufacturing. When asked to elaborate on their views, respondents identified how this could be facilitated, such as the provision of ‘infrastructure, skill set, capacity is required’. → IPF CFE Phase 2 Progress Report (2022): 7 out of 10 manufacturer respondents stated they are already engaged in on-demand manufacturing, producing small made-to-order or pre-ordered batches. They cited the ease of using textile inputs that are sourced within the UK sped up production and kept their carbon footprint to a minimum.
Related policy and industry reports, industry initiatives and policy case studies	<ul style="list-style-type: none"> → To realise the UN Sustainable Development Goals and UNFCCC emission reduction targets, as well as ensure the safety of textile workers around the world and achieve a radical change in citizens’ fashion consumption patterns, local, national and in particular, transboundary regulation has been cited as essential.²² → California’s Garment Worker Protection Act (2020) (see Section 2.1) → requires garment manufacturers to register with the state and provide detailed information about their supply chains and labour practices. The law makes retailers and brands that contract with garment manufacturers jointly liable for wage theft and other labour violations committed by manufacturers. → The UK’s Modern Slavery Act³⁶ was introduced in 2015 and requires businesses with a turnover of over £36 million to publish an annual statement outlining the steps they have taken to ensure that slavery and human trafficking are not taking place in their supply chains. This is particularly relevant to the fashion industry, which has faced criticism for poor working conditions and low wages in garment factories.
Benefits:	<p>Reduction in emissions will help meet the UK’s Net Zero ambitions, while localised, quality and on-demand manufacturing will reduce inventory and help build local circular loops.</p> <p>The UK can also be known for best practices in garment manufacture, which includes ethical treatment of its workers, supporting growth and the jobs market as well as leading in manufacturing innovation that reduces waste and increases resource efficiency.</p>

Interventions	EPR
Description and benefits:	As above
Primary evidence through industry engagement	As above
Government interventions:	Digital Product Passport Regulation
Description and benefits	As above
Primary evidence through industry engagement	As above

SUPPLY CHAIN AREA: MANUFACTURING

Stakeholder need identified: The UK fashion industry needs support to grow repair and remanufacture skills and services.

Recommended interventions:

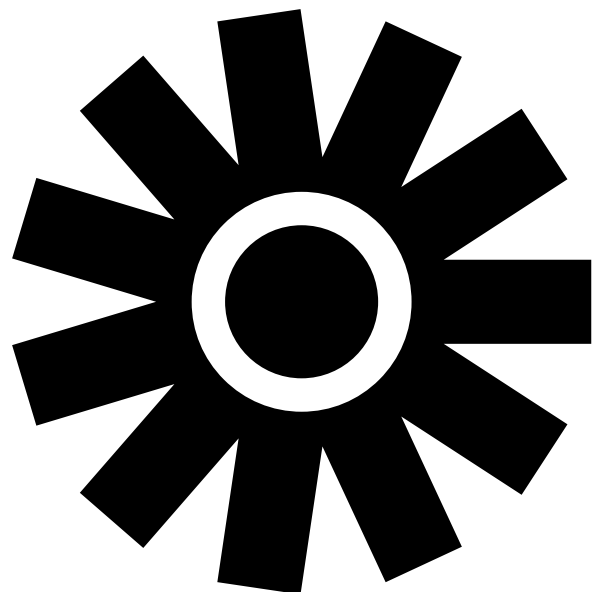
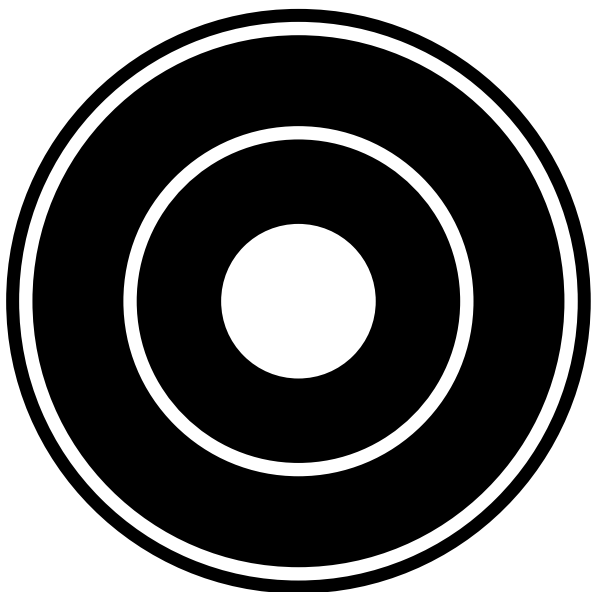
- 1 Providing Education and Training Programmes

Rationale: The need for practical training within the fashion industry, especially in the case of seamsters to support an economy of reuse and repair is paramount. Designers are currently experiencing internship applications from students wishing to be taught practical skills in relation to designing for circularity.

As part of research by the BFC’s IPF and Circle Economy in 2022 into ‘Developing Circular Fashion Ecosystems’,¹⁴ one of the main challenges identified by stakeholders in London was linking the design phase with the post-use ecosystem phase. In addition, the IPF CFE Progress Report (2022) identified that designing for longevity, including offering repair and redesign services to extend product life was a priority for most stakeholders surveyed.

Interventions:	Providing Education and Training Programmes
Description:	<p>The UK Government could fund specific education and training programmes for fashion designers and workers related to technical skills gaps within the UK. This could include practical courses on repair, maintenance and remanufacture techniques, as well as the inclusion of increased technical teaching within existing further education courses.</p>
Primary evidence through industry engagement	<ul style="list-style-type: none"> → IPF Forum 2023 survey participants: three in five (59%) said there is not sufficient focus on practical skills for repair, maintenance and remanufacture techniques, and around a quarter (26%) said there is not enough. → IPF CFE Phase 2 Progress report (2022): 79% of academics are already providing training in circular design to their students. Nine out of ten (90%) said they teach design to minimise waste or design for longevity of use. They also teach design for recyclability at end of life (82%) and design for use of low-impact materials and fibres, or processes such as dyeing (64%). → IPF CFE Phase 2 Progress Report (2022): further, almost all industry bodies and third sector are developing resources and workshops to educate citizens on sustainability, regeneration and circular economy principles to empower people to make informed choices.
Relevant policy and industry reports, industry initiatives and policy case studies	<ul style="list-style-type: none"> → The Centre for Sustainable Fashion (London College of Fashion, UAL) (2019) recommended mandating practical skills in the teaching of clothing repair, as well as creating more opportunities for apprenticeships and training in technical and craft skills for textile and garment production. → To address the skills gap in the fashion and textile industry the UK Fashion and Textile Association's (UKFT) Skills BootCamp (2023) aims to increase a skilled workforce in the sector.
Benefits:	<p>By providing additional training and education, the government can help to promote more circular practices throughout the fashion industry, addressing the skills gap and the government's levelling up agenda.</p>

8 Conclusions



The IPF takes an ecosystem approach to research and insight gathering, to build a robust evidence base through direct engagement with industry. This is to encompass the different stakeholders the BFC engages with, and to reflect their viewpoints from across the fashion industry.

This research has specifically focused on broad themes in the upstream supply chain, so further research could be undertaken to cover the entire fashion supply chain and ecosystem, to include the use phase and downstream supply chain.

One of the recommendations in the CFE Phase 1 Report was to lead on an initiative to ‘Model Economic and Material Flows’ within the fashion supply chain.¹ Stakeholders who engaged with this research indicated that there is limited data on waste across the whole supply chain, specifically to identify waste hotspots. Quantifying this data could help policymakers understand the scale of problems. Furthermore, a detailed study on the economic opportunity of a circular fashion ecosystem would be of high value, proving the opportunity for green growth within the UK. This should also comprise research on the just transition relative to the economic opportunity.

Whilst the fashion industry continues to face unprecedented challenges from the pandemic, it is vital we urgently look at decarbonisation and reducing waste arising from linear and extractive sourcing, design, and production methods. We need to move from linear models to circular economies and embrace regenerative agriculture as well as sharing knowledge and best practice. We accordingly recommend the UK’s Ten Point Plan and the NDCs expands to cover the fashion and textile sector to enable clear goal setting and KPIs for the industry at large.

Research on how circularity in fashion and textiles can contribute to the UK Net Zero targets and reduce GHG emissions, as well as other pollutants and negative impacts should also be carried out. This will help address Scope 3 Emissions specifically as part of the UK Net Zero ambitions, as there are no frameworks or standards to approach this despite it comprising the majority of emissions in the fashion supply chain.⁵²

The dialogue thus far has been primarily focused on the environmental impact, but this is also a discussion on equality. It is imperative to include working conditions and societal impacts accordingly. The fashion industry needs to set new standards in skills, ethics, equality, and diversity on the global stage to ensure fashion is still a necessity but is accessible and affordable for all. A just and nature-positive fashion economy is needed, which requires full systems change, including materials, supply chains, innovation, infrastructure, jobs and skills, business models, policy frameworks, the retail environment and market economics. Given the fashion and textile industry’s desire to welcome a UK EPR scheme specifically for textiles, an industry-led approach to test and determine the future legislative approach would be a key recommendation. Following allocation from a UKRI award, an industry-centred project will commence in 2023 to determine an EPR ‘sandbox’ approach, which the IPF will also

contribute to. The objective is to help design a scheme that has engaged with industry, approaching it from a market-based systemic perspective that could be dynamic and adapt to emergence of new technologies, and changes on the UN's goals for climate action. Modelling scenarios in this way can help to deliver what could be the best mechanism for dealing with this regulation.

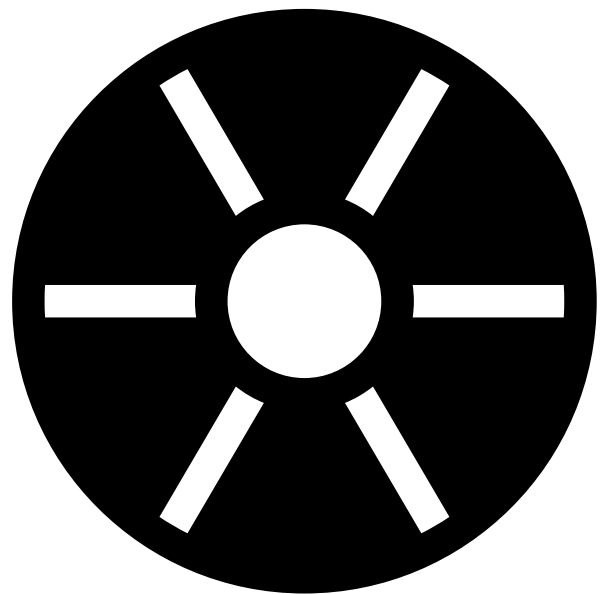
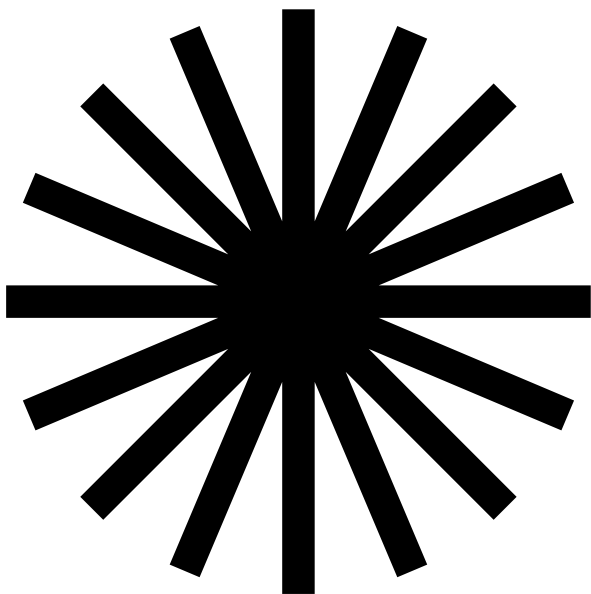
Based on the research in this report, including cross-industry engagement per Appendix 2 and wider thoughts on next steps, development of specific 'industry & government labs' could be a pragmatic step to further the green transition and deepen dialogue between all stakeholders across the fashion industry alongside government. Thoughts on this approach have already started, as part of research by the BFC's IPF and Circle Economy in 2022 into 'Creating Circular Fashion Ecosystems'¹⁴. The role of these labs would be to convene actors from across the circular fashion ecosystem: together with policymakers both on national and regional levels.

The labs will be designed as action-oriented working sessions where the participants will work on mapping current barriers and regulatory opportunities to accelerate the green transition to a circular fashion economy and will provide ideas and recommendations for new policies or amendments to existing ones.

Finally, there is a strong opportunity to leverage the impact of the fashion industry with respect to citizen engagement with culture, creativity and self-expression. There is a huge opportunity for government to enhance interventions with citizens for consumer behaviour change. For example, better kerbside collections alongside public awareness campaigns and education of citizens on the role they have to play within the green transition. The EU's new Reset the Trend campaign⁵³ is a particularly good and recent example – it 'engages Europeans in the battle against fast fashion and raises public awareness about the EU Strategy for Sustainable and Circular Textiles'. Local council support will otherwise be particularly useful here.

To conclude, it is important that we take these steps as soon as possible. For industry and government this chance we now have to transform the fashion economy to be more regenerative presents an exciting opportunity for new business models, as well as aiding innovation and green growth. This would be a significant contribution to improving societal needs, the labour market, and an opportunity to lead the global challenge to improve reductions in greenhouse gases in the fashion and textile industry and how we can get closer to net zero by designing the green transition.

9 Glossary



Definition of key terms used in this report are detailed below.

CIRCULAR AND SHARING BUSINESS MODELS. Business models, such as clothing rental, resale, or subscription schemes, which ideally displaces production of new products. This meets a key aim of circular principles to keep products in use for longer, and thus helps to drive production of higher quality garments.

CIRCULAR DESIGN. The concept of designing products and services in line with the principles of a circular economy. Using sustainable and regenerative materials, designing out waste and pollution represent fundamental first steps. The overarching focus is to preserve the value of a safe to use product or service for as long as possible by designing for upgradeability/modularity, repair/refurbishment, and reuse. Within this, circular clothing design refers to designs that use recycled, recyclable and renewable materials, designs for durability, reuse, repair, redesign, modularity, disassembly, and recyclability.

CLOSED-LOOP RECYCLING. A recycling system in which all the waste materials collected are converted into new materials that are of the same quality as the original input and can be reused in the same applications. Downstream supply chain. Part of the fashion supply chain from point of sale, to use phase and post-use.

ECOSYSTEM. A dynamic network of interconnected actors operating within a bounded geographical space.

FEEDSTOCK. A raw material that is used as an input into a process to produce a finished product

FIBRE-TO-FIBRE RECYCLING. A recycling process in which collected waste textile fibres are sorted and processed into textile fibres suitable to be reused in the supply chain.

GREENHOUSE GAS EMISSIONS (GHG). An atmospheric gas, such as carbon dioxide and methane, that can trap heat by absorbing and emitting radiation, contributing to the greenhouse effect.

JUST AND FAIR TRANSITION. A transition that looks to ensure that the unprecedented opportunities and benefits on offer are shared equitably across society so that all have access to a viable, prosperous, and secure future.

LINEAR ECONOMY. An economic system in which raw materials are extracted, transformed into goods and services, consumed, and ultimately disposed of as waste. This is currently the dominant system in the global economy.

MECHANICAL RECYCLING. A recycling process in which machinery physically separates and deconstructs waste textile material, typically

through a chopping and pulling process, into shredded fragments until a stage is reached at which fibres can be recovered individually.

NATIONALLY DETERMINED CONTRIBUTIONS (NDCs). A country's self-defined climate action plans to cut emissions and adapt to climate impacts. For example, reduction of economy-wide GHG emissions by a certain amount within a defined time period. NDCs are recorded in an NDC registry maintained by the secretariat of the U.N. Framework Convention on Climate Change (UNFCCC), Paris' parent agreement.

ON-DEMAND MANUFACTURING AND DISTRIBUTION. A manufacturing and distribution model that prioritises flexibility, as only the exact quantity of goods are produced at the point at which they are needed.

PRODUCT PASSPORT. A concept in which a dataset for a product would be maintained to track it throughout its entire lifecycle. The dataset would include information concerning components; constituent materials and their sources; disassembly procedures; and recycling procedures.

RECYCLED MATERIALS. Synthetic or natural raw material that is derived from the recycling of used textiles and other fashion related materials and either suited to replacing virgin inputs for new clothing manufacturing or suited to use in alternative applications and industries.

RECYCLABLE MATERIALS. Materials that have been recovered or diverted from waste stream for purpose of reuse, recycling, or reclamation to be used in products as a replacement for raw or virgin materials.

REGENERATIVE. Enabling the preservation or enhancement of the planet's resources and environment

REPROCESSORS. Businesses focused on reprocessing, typically through recycling processes to convert waste material to reusable and re-merchandise materials.

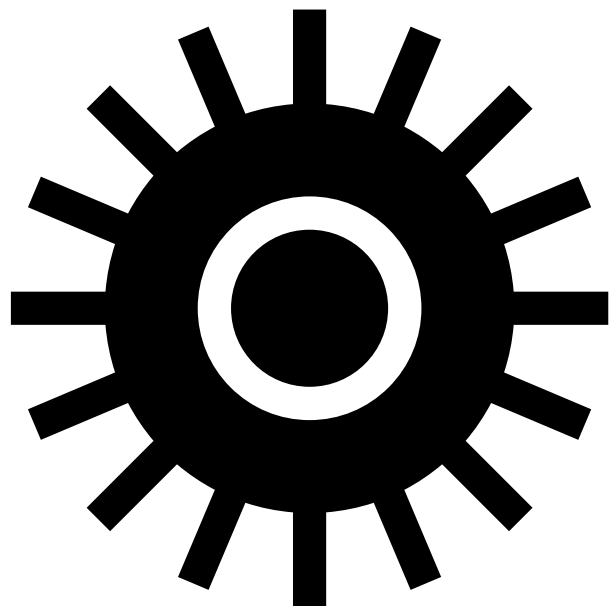
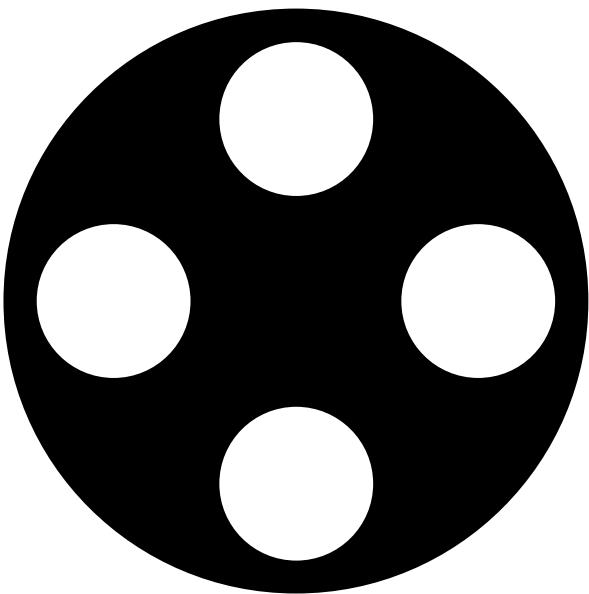
SCOPE 3 EMISSIONS. Known as indirect emissions, as they are from the supply chain which are a result of activities from assets and activities not owned or controlled by the company. Scope 3 is also all emissions which arise from sources not within an organisation's own scope 1 and 2 boundaries/ activities.

UPSTREAM AND DOWNSTREAM SUPPLY CHAIN: Upstream is getting materials to the manufacturer to point of finished product, and downstream is getting products to the end user and post-use phases.

WASTE. Materials that have deteriorated in quality or been contaminated to the extent that they are no longer suitable for reuse, or surplus textiles created during the production process.

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Appendix 1



Further detail on relevant UK & EU policies are below. UK:

ECODESIGN REGULATIONS – DISHWASHER AND WASHING MACHINE.³⁹ This draft legislation focuses on dishwasher and washing machine regulation. Any dishwasher that is designated as ‘eco’ must be named ‘eco’ on the front of the machine, must be made by a manufacturer (not a retailer) in the European Union, and must not use misleading words such as ‘ethically’, ‘energy-saving’, or ‘waterless’. All washing machines must provide a washing cycle called eco 40–60 set as the default and must provide a complete cycle for cotton.

EXTENDED PRODUCER RESPONSIBILITY – PACKAGING (EPR).⁴⁰ Under the EPR scheme, UK organisations are required to take responsibility for the collection, treatment, and disposal of their packaging waste. The goal of the EPR scheme is to encourage organisations to reduce waste and increase the amount of recycling and recovery of packaging materials. It also helps to shift the cost of waste management from taxpayers to manufacturers, which can incentivise them to design more sustainable and environmentally friendly products. To comply with the regulations, organisations must take steps to record data about all the empty packaging and packaged goods they handle and supply through the UK market since 1 January 2023.

GREEN CLAIMS CODE, BY THE CMA.³⁸ To ensure consumers are not being misled, the Competitive Markets Authority (CMA) is examining accuracy of sustainability-led claims made by companies who manufacture consumer-facing products. This includes fashion. The CMA has produced a guide to help businesses understand how best to communicate their sustainability credentials to citizens, in a bid to crack down on ‘greenwashing’. Since 2022, Fashion brands are already being investigated over their ‘green’ claims.⁵⁴

MODERN SLAVERY ACT.³⁶ The Modern Slavery Act was introduced in 2015 and requires businesses with a turnover of over £36 million to publish an annual statement outlining the steps they have taken to ensure that slavery and human trafficking are not taking place in their supply chains. This is particularly relevant to the fashion industry, which has faced criticism for poor working conditions and low wages in garment factories.

NATIONALLY DETERMINED CONTRIBUTIONS (NDC). In 2019, the UK Government passed legislation committing the country to reaching net zero carbon emissions by 2050. In 2021, their target was to reduce emissions by 78% by 2035 compared to 1990 levels, as part of Nationally Determined Contributions (NDCs).¹² This has significant implications for the fashion industry, which is a major contributor to greenhouse gas emissions.

NET ZERO BY 2050.³⁷ The industry will need to reduce its emissions through measures such as using renewable energy, reducing waste, and promoting circular economy models. The Government makes clear that renewables will be a key focus, with the stated aim of 40GW of offshore wind power by 2030 and the creation of more onshore wind and solar energy supplies.⁵⁵

Key Commitments of the net Zero Strategy include publishing sector and supply chain development plans for key low carbon sectors and working with business to encourage investment in green skills and industries in the UK.

PLASTIC PACKAGING TAX.⁴¹ The UK Plastic Packaging tax is a new tax on plastic packaging, introduced in 2022 to reduce the amount of plastic waste produced and encourage the use of more sustainable packaging materials. The tax will be charged on plastic packaging that does not contain at least 30% recycled plastic. The tax will be £200 per metric tonne of plastic packaging, which is subject to the tax. This means that companies will be charged £200 for every metric tonne of plastic packaging they produce that does not meet the 30% recycled plastic threshold. The aim of the tax is to encourage companies to use more recycled plastic in their packaging and to promote the use of alternative materials that are more sustainable and have a lower environmental impact. The revenue generated from the tax will be used to fund waste reduction and recycling initiatives in the UK, such as improving recycling infrastructure and supporting local authorities to increase their recycling rates.

Other relevant proposed initiatives impacting the UK market (for those businesses who wish to do business with anyone in the EU single market), specifically stakeholders working in the upstream supply chain, is the EU's new circular action plan (CEAP) which the European Commission adopted in March 2020.⁴² As part of this, the EU has a Strategy for Sustainable and Circular Textiles,⁴³ with an aim to create a new sustainable ecosystem for textiles by 2030. The shift is focused on industry and consumers and proposes actions to change production and consumption elements of fashion and textiles.

EU DIGITAL PRODUCT PASSPORT (DPP).⁴⁴ The Digital Product Passport (DPP) is a proposed system developed by the European Union to help support the transition to a circular economy by providing a standardised digital record of a product's environmental and social impact throughout its lifecycle. The DPP would provide a comprehensive digital record of a product, including information on its materials, production process, energy consumption, and environmental and social impact. This information would be stored in a standardised format that could be accessed by all stakeholders, from manufacturers to consumers. It could also help to reduce waste and improve resource efficiency by making it easier to recycle and reuse products at the end of their lifecycle. The DPP is still in the development phase, proposed as part of Ecodesign for sustainable products regulation (ESPR) which is set to be published in 2024. The EU Strategy for Sustainable and Circular Textiles calls for DPPs to be mandatory on textiles sold in Europe by 2030.⁴³

EU DUE DILIGENCE ACT.⁴⁶ The EU Due Diligence Act is expected to be adopted around May 2023, with entry into force 18 months later. Commodities and associated products which are placed on the EU market (imported, exported, traded) will be required to be deforestation

free – this includes those relevant to fashion such as leather, rubber, and wood products (such as lyocell).⁴⁹ The Act will require traceability back to plantation, and evidence of provenance that includes geolocation of all plots of land involved. ‘Substantiated concerns’ can be raised by anyone and trigger a legal response, with operators and traders being held liable.

EU CIRCULAR ECONOMY PACKAGE (CEP).⁵⁶ The CEP is a set of EU-wide measures aimed at promoting a more circular economy, including in the fashion industry. The UK Government has committed to implementing these measures despite leaving the EU, which will include measures to reduce waste and increase recycling, aligned with strategies that include the 25 Year Environment Plan.⁵⁶ The CEP was first introduced in 2015, but was revised and updated in 2020 to reflect the EU’s commitment to achieving a climate neutral and circular economy by 2050. The updated package includes a number of key measures, including EPR, under which producers are responsible for the end-of-life disposal of their products.

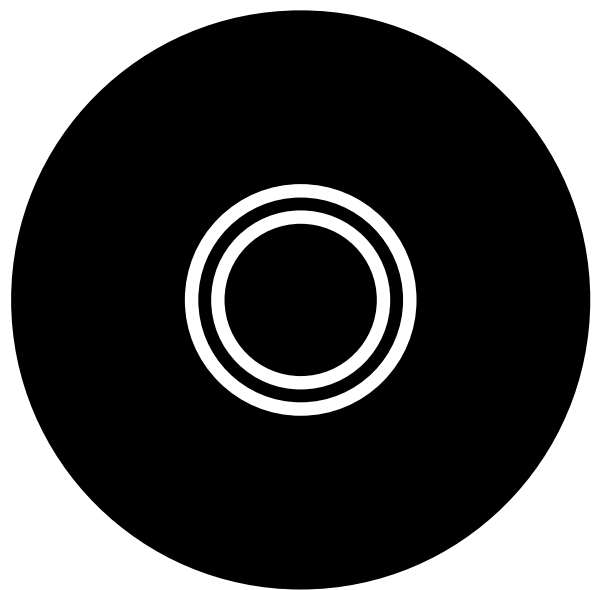
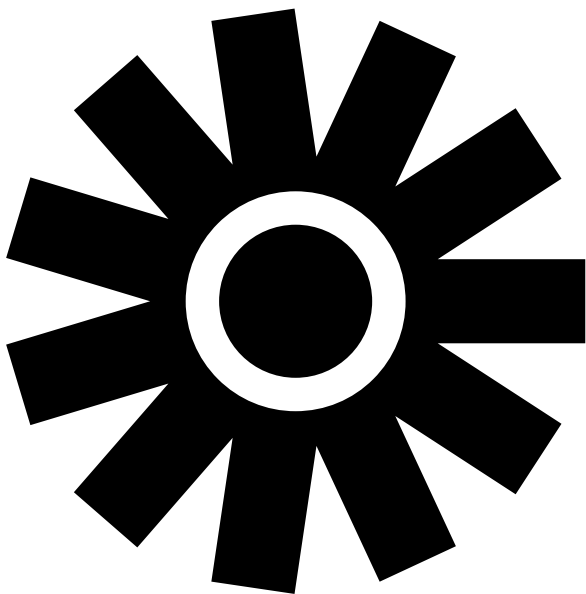
EU GREEN CLAIMS DIRECTIVE. The European Commission has adopted a proposal for substantiation and communication of environmental claims. This is in line with the Green Claims Code by the CMA in the UK noted above.

THE IMPORT ONE-STOP SHOP (IOSS).²² From July 2021, all goods imported into the EU are subject to VAT. The rationale for these changes addresses the importation of low value consignments that are not produced within the EU.⁴⁷ It also addresses imbalanced competition between local businesses in Europe and manufacturers and distributors abroad, since purchasing internationally increases transportation expenditures and associated environmental impacts.²² In order to realise the UN Sustainable Development Goals and UNFCCC emission reduction targets, as well as ensure the safety of textile workers around the world and achieve a radical change in citizens’ fashion consumption patterns, local, national and in particular, transboundary regulation has been cited as essential.

SUSTAINABLE CONSUMPTION PLEDGE.⁵⁷ Part of the New Consumer Agenda, the European Commission is inviting companies to take a voluntary pledge to support sustainable consumption practices. This is an initiative that goes beyond legislation. Commitments include setting targets on carbon footprint identification and reduction EU Ecolabel integration. Increasing circularity in the company’s activities (use of recycled or sustainably sourced materials, generate less waste) and respect social sustainability.

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Appendix 2



In April 2023, the IPF held its annual IPF Forum 2023⁵⁸ bringing together over 200 actors from across the UK fashion industry. The format includes running hack sessions with the audience on key topics. Hack 1 brought together approximately 70 representatives, and the session was designed around the question of how to create circular fashion ecosystems¹⁴ in cities, and after a series of examples provided by the speakers. Participants were put into group discussions to further explore what is the role of businesses and governments in creating such circular ecosystems. Certain key themes emerged from the group discussions.

Q1: What could businesses do to create circular fashion ecosystems in the UK?

→ **Strengthen collaboration between businesses**

- Develop communities of businesses, or else coalitions of brands that enable knowledge sharing and skills exchange between businesses. In such communities, each organisation could be a thematic lead based on their experience topic.
- Such coalitions should also prioritise the connection between small and bigger brands.
- Similarly, these coalitions could also take the form of physical hubs where knowledge sharing, innovation, and upskilling can take place

→ **Engage with the whole value chain**

- Businesses should have a complete picture of how their supply chain operates and they should build a working relationship with all the stakeholders involved throughout the value chain.
- Collaborate with the local communities

→ **Share knowledge and offer to coach other businesses**

- Businesses that are pioneers in practices of circular design, reuse of materials, recycling, etc., should offer coaching and knowledge exchange sessions for other peers.
- Big brands that invest in R&D and innovation should also have incentives to make this knowledge widely available

→ **Invest in education and training**

- Businesses should invest in training and educating their designers and employees to integrate circularity into their products and processes

→ **Adopt a different mindset: from proprietary to pre-competitive.**

- Businesses need to adopt a completely different mindset and comprehend that circular solutions can only be achieved through collaboration

→ **Educate consumers**

- Businesses should take responsibility for educating consumers, shaping circular narratives, and sharing information. Businesses can create stories and contribute towards building healthy consumer behaviours.

Q2: And what government interventions – including policy changes – could support businesses to enable this green transition?

→ **Create hubs of collaboration**

- Coordinate the collaboration between the actors of the ecosystem
- Create coalitions of brands
- Set up 'business improvement districts': areas where businesses can collaborate and learn from each other while co-creating solutions at scale, e.g. textiles sorting, or specialised waste collection. In such a setup, the businesses will have to contribute with their own funding/resources, while the governments will be responsible for the coordination, and for creating the enabling environment for innovation through policies.

→ **Map and understand the system**

- Map dead stocks and create a redistribution network between businesses
- Identify existing barriers of the stakeholders
- Map the actors that need to collaborate and form a circular ecosystem
- Gather data on business and create categorisation for industry-specific areas

→ **Build industrial symbiosis loops between businesses**

- Following the principle that one business' waste can be another business' input resource, identify industrial symbiosis loops within the region and create connections between the businesses.

→ **Develop education and awareness programmes**

- Develop educational programs for businesses
- Develop campaigns to build consumer awareness and shift the mindset toward circular consumption

→ **Invest in innovation**

- Formalise processes for reusing textiles waste
- Coordination and innovation support
- Create funds for materials research, and recycling innovation

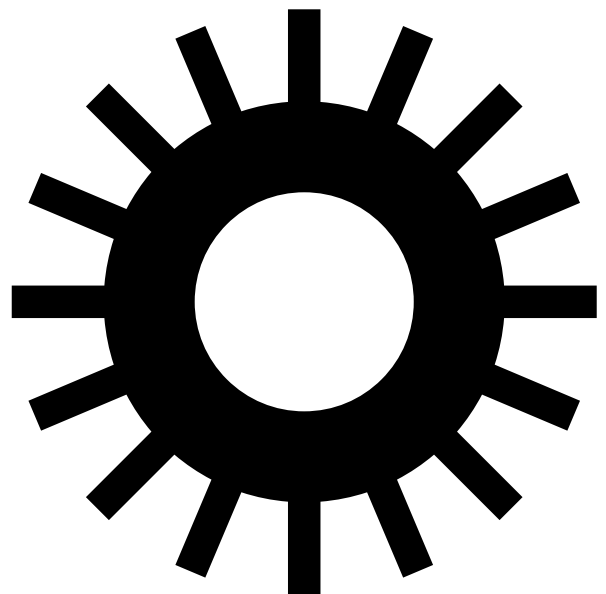
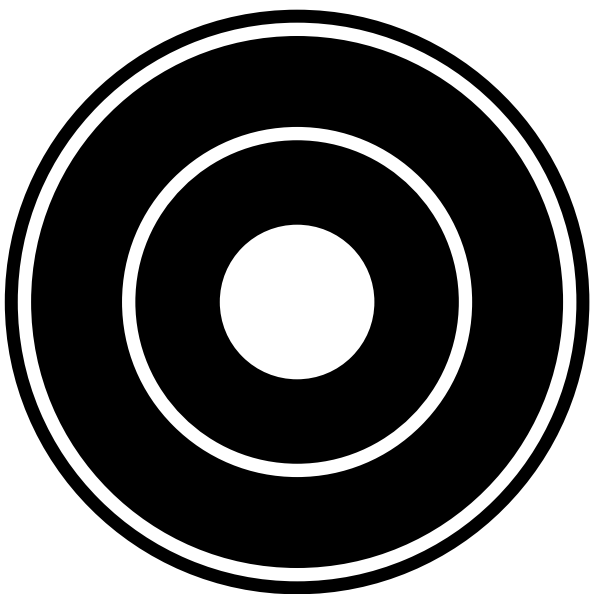
→ **Implement financial measures**

- Provide financial support to allow small businesses to collaborate
- Create tax incentives for sustainable and circular businesses
- Offer tax exemptions and reliefs for businesses that use circular materials and innovations
- Tax the big players for overproduction
- Impose fines for polluters
- Create a cap on the volumes of non-circular products that companies can produce
- Provide incentives for circular and sustainable fibres and materials

→ **Develop labelling schemes and standards:**

- Develop labelling and traceability schemes for the circular economy
- Develop standards for business performance and impacts
- Develop standards for circular products

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